



Virginia Commonwealth University
VCU Scholars Compass

Theses and Dissertations

Graduate School

2009

SOCIAL TIES AND TEAM-MEMBER EXCHANGE AS ANTECEDENTS TO PERFORMANCE IN NETWORKING GROUPS

Jeffrey Pollack

Virginia Commonwealth University

Follow this and additional works at: <http://scholarscompass.vcu.edu/etd>



Part of the [Business Administration, Management, and Operations Commons](#)

© The Author

Downloaded from

<http://scholarscompass.vcu.edu/etd/1805>

This Dissertation is brought to you for free and open access by the Graduate School at VCU Scholars Compass. It has been accepted for inclusion in Theses and Dissertations by an authorized administrator of VCU Scholars Compass. For more information, please contact libcompass@vcu.edu.

SOCIAL TIES AND TEAM-MEMBER EXCHANGE AS ANTECEDENTS
TO PERFORMANCE IN NETWORKING GROUPS

A dissertation submitted in partial fulfillment of the requirements for the degree of
Doctor of Philosophy in Business at Virginia Commonwealth University.

By

Jeffrey M. Pollack
B.S. Northwestern University, 1997
M.S. North Carolina State University, 2003

Director: Anson Seers
Professor, Department of Management

Virginia Commonwealth University
Richmond, Virginia
May, 2009

© Jeffrey M. Pollack 2009

All Rights Reserved

Acknowledgments

This project would not have been possible without the support of friends and family and the advice of colleagues. I would like to especially thank the Chairperson of this dissertation, Anson Seers. I would also like to offer a heartfelt thanks and appreciation to Peg Williams and Matt Rutherford for their patience and advice throughout my doctoral learning experience. I feel privileged to have had the opportunity to learn and grow by working with energetic, experienced, and professional individuals.

All my committee members, Drs. Anson Seers, Peg Williams, Matt Rutherford, Jeffrey Krug and Jeff Green deserve special recognition for making this all possible with their willingness to offer their time and feedback. Special thanks go all the BNI members, as well as to Mark Deutsch, who facilitated access to the BNI groups I surveyed. I would like to thank my colleagues in the Ph.D. program who have helped me enjoy graduate school and Richmond. Thanks also to Pam Burnette and Kim Gower for their feedback. Eli, thanks for your love, guidance and support throughout this endeavor. Jeni, thanks for being my best friend and wife, as well as my mentor and teacher. To my family-- thanks for your love and support.

Table of Contents

	Page
Acknowledgements.....	iii
List of Tables	vii
List of Figures.....	ix
Abstract	xi
Chapter	
1 Introduction.....	1
The phenomenon of networking.....	1
2 Literature review and research hypotheses	7
Social network theory.....	7
Team-member exchange quality	16
The mediating role of affective organizational commitment	25
Conceptual framework: Individual versus group level issues.....	30
Synthesis.....	32
Research hypotheses.....	33
3 Pilot study	36
Overview	36
Participants	36
Measures.....	37

	Results for pilot study.....	38
	Discussion for pilot study.....	40
4	Methods main study.....	43
	Participants	43
	Procedures	43
	Measures.....	44
5	Results main study	53
	Analysis plan	53
	General overview	54
	Results for Hypotheses 1-6.....	56
	Post hoc analyses.....	62
6	Discussion.....	70
	References.....	81
	Appendices.....	124
	A Institutional Review Board (IRB) consent form.....	124
	B Team-member exchange quality measure	125
	C Organizational commitment measure	126
	D Egocentric weekly interaction measure	127
	E Performance measure.....	128
	F Entrepreneurial self-efficacy measure	129
	G Social competence measure	130
	H Demographics measures	131

I	Work history measures	132
J	Institutional Review Board (IRB) debrief form.....	133
	Vita.....	134

List of Tables

	Page
Table 1: Means, standard deviation, reliabilities and intercorrelations reported from Pilot Study.....	95
Table 2: Results of exploratory factor analysis for team-member exchange scale-- principal axis factoring with varimax rotation.	96
Table 3: Results of intraclass correlation calculations for outcomes in main study	97
Table 4: Means, standard deviation, reliabilities and intercorrelations for main study.	98
Table 5: Group-adjusted regression results for model with social ties and team-member exchange contributions predicting referrals passed.....	101
Table 6: Group-adjusted regression results for model with social ties and team-member exchange contributions predicting referrals passed with control variables included.	102
Table 7: Dominance analysis for social ties and team-member exchange contributions on the outcome of referrals passed.	103
Table 8: Group-adjusted regression results for model with social ties and team-member exchange contributions predicting team-member exchange receipts.	104
Table 9: Group-adjusted regression results for model with social ties and team-member exchange contributions predicting team-member exchange receipts with control variables included.	105
Table 10: Dominance analysis for social ties and team-member exchange contributions on the outcome of team-member exchange receipts.	106

Table 11: Group-adjusted regression results for model with the interaction of social ties and team-member exchange contributions predicting referrals passed.....	107
Table 12: Group-adjusted regression results for model with the interaction of social ties and team-member exchange contributions predicting team-member exchange receipts.....	108
Table 13: Group-adjusted regression results for model with social ties and team-member exchange contributions predicting percentage of annual revenue generated from networking activity.	109
Table 14: Group-adjusted regression results for model with social ties and team-member exchange contributions predicting percentage of annual revenue generated from networking activity with control variables included.	110
Table 15: Dominance analysis for social ties and team-member exchange contributions on the outcome of percentage of annual revenue generated from networking activity.....	111

List of Figures	Page
Figure 1: Ego network displaying weekly and daily relationships	112
Figure 2: Illustration of referrals passed between members in a networking group.....	113
Figure 3: Interaction of social ties and TMX on number of people passing referrals (Displaying results from pilot study)	114
Figure 4: Proposed research model with outcome of number of group members passing referrals	115
Figure 5: Proposed research model with outcome of TMX receipts.	116
Figure 6: Interaction of social ties and TMX contributions on affective organizational commitment	117
Figure 7: Organizational commitment partially mediates the relation between social ties and how many group members passed referrals	118
Figure 8: Affective organizational commitment partially mediates the relation between social ties and team-member exchange receipts	119
Figure 9: Affective organizational commitment fully mediates the relation between social ties and percentage of annual revenue generated from BNI activity	120
Figure 10: Affective organizational commitment fully mediates the relation between team-member exchange contributions and number of group members passing referrals	121
Figure 11: Affective organizational commitment partially mediates the relation between team-member exchange contributions and team-member exchange receipts.....	122

Figure 12: Affective organizational commitment fully mediates the relation between	
team-member exchange contributions and percentage of annual revenue generated	
from BNI activity	123

Abstract

SOCIAL TIES AND TEAM-MEMBER EXCHANGE AS ANTECEDENTS
TO PERFORMANCE IN NETWORKING GROUPS

By Jeffrey M. Pollack, M.S.

A dissertation submitted in partial fulfillment of the requirements for the degree of
Doctor of Philosophy in Business at Virginia Commonwealth University

Virginia Commonwealth University, 2009

Director: Anson Seers, Professor, Department of Management

The present research examines the role of social ties and team-member exchange quality (TMX) in enabling small business owners involved in formal networking groups to gain access to new business. I report on data from two studies. First, initial data from a pilot study of 23 small business owners in networking groups revealed that more numerous social ties and more positive perceptions of team-member exchange quality (TMX) predicted performance outcomes. Specifically, individuals who had more numerous social ties within a networking group, and who reported higher TMX perceptions of their group, received significantly more referrals to potential clients compared to individuals who had numerous social ties but lower perceptions of TMX.

Second, using a sample of 336 small business owners across 24 networking groups I built on these initial results, and incorporated an expanded theoretical framework, to explore how and when social ties and TMX influence the effectiveness of small business owners in networking groups. Specifically, I draw on the literatures

related to social network theory, team-member exchange quality and affective organizational commitment to guide my exploration of the effectiveness of small business owners in networking groups. Data support the conclusion that both social ties and team-member exchange are important factors predicting the performance outcomes of small business owners in networking groups. Further, the data illustrate the mediating role of affective organizational commitment between the relation of social ties and team-member exchange on performance outcomes. I discuss implications and describe areas for future research based on these findings.

Introduction

The Phenomenon of Networking

Over the last ten years, the increasing use of online social networking technologies such as Meeting-Maker™, LinkedIn®, Facebook and MySpace has drawn interdisciplinary research attention. Empirical investigations have started to explore, for example, how individuals use social network relations to keep in touch with friends, find romantic partners, network and exploit business opportunities (Cross, Liedtka, & Weiss, 2005; Scott, 2007; Smith, Collins, & Clark, 2005; Tung, 2001). Building on these initial inquiries, the goal of the present research is to examine the role that networking can play in predicting small business owners' success. Specifically, I focus on exploring how individual small business owners' interactions in formal networking groups may foster access to new potential clients.

In a business context, the phenomenon of networking is defined as, “the initiation and sustenance of interpersonal connections for the rather Machiavellian purpose of tapping those relationships later for commercial gain” (Iacobucci, 1996, p. xiii). Research on business networking can help small business owners understand ways to increase their chances for success. And, understanding how networking can enable small business owners to gain access to new potential clients is important considering that roughly one-third of all new businesses close within the first two years and over half of new firms close in their first four years (Headd, 2003; Knaup, 2005). The high number of new

venture failures provides insight into the precarious and tumultuous experience that small business owners encounter in their first years of operation. And, despite decades of research, very limited forward-looking prescriptive advice exists to guide small business owners through these first few years.

However, recent research on networking as a means to gain access to new potential clients has offered initial insight into the process of networking by illustrating how it can be beneficial for new business owners (e.g., Lee & Tsang, 2001; Mackinnon, Chapman, & Cumbers, 2004; Miller, Besser, & Malshe, 2007). In the wake of new perspectives, research attention has shifted from a traditional approach which viewed networking as explaining how business owners spend their time to a more contemporary approach which describes how they market themselves (Gilmore & Carson, 1999; O'Donnell, 2004). A specific focus within this line of inquiry is how an individual small business owner interacts with other people. Research suggests that certain behaviors of entrepreneurs, especially their effectiveness in interacting with other people in face-to-face settings, may predict performance outcomes (Baron, 2000; Baron & Markman, 2000). Specifically, extant research examines the effectiveness of new business owners from a social capital perspective (i.e., the immediate and future resources an individual gains from his or her interactions with other people) as well as a social competence perspective (i.e., a person's overall effectiveness in interacting with other people) (Baron & Markman, 2004; Nahapiet & Ghoshal, 1998; Spence, Donovan, & Brechman-Toussaint, 1999). This line of research is particularly relevant to the idea of

how entrepreneurs network and market themselves in order to gain access to new business-- it may provide insight into how an entrepreneur gains access to new information (i.e., new clients and potential customers).

In considering how entrepreneurs can market themselves, the role that formal networking plays in accessing valued resources and information is critical-- it is the main reason for involvement in networking groups. Specifically, within formal business networking groups, the goal is to have fellow members identify potential customers and pass those referrals to each other. Each member of the group becomes the other person's own marketing and advertising team in hopes of gaining access to additional clients (Malewicki, 2005; O'Donnell, 2004; Shaw, 1999).

To further examine the predictors of performance outcomes for small business owners in networking groups, and build on the social capital and social competence perspectives, it is useful to explore the social exchange process of networking. The social exchange process by which individuals negotiate the balance between what they receive from the group and what they give to the group (i.e., reciprocity) has implications for how individuals function in networking groups and for their ability to gain access to new business (e.g., Graen & Scandura, 1987; Molm, Schaefer, & Collett, 2007). In the present research, I specifically examine this process of reciprocity-- I examine what individual small business owners contribute to the networking group as well as what they receive in return. For instance, individual group members can contribute time and energy in the forms of building social ties (e.g., meeting with group members each week) as well as

supporting other group members when they are busy (i.e., team-member exchange (TMX) contributions). What group members receive may include referrals to new business (e.g., group members giving them names and contact information for potential clients) as well as group members providing support when needed (i.e., team-member exchange receipts).

One of the more prolific areas of study related to the effectiveness of individuals obtaining access to new information (i.e., new clients and potential customers) focuses on the number of social ties they have. Specifically, research illustrates that individuals with many direct contacts should be able to obtain information faster, access richer and more unique sets of data, and draw from broader sets of referrals (Burt, 1992; Nahapiet & Ghoshal, 1998, Smith et al., 2005). However, one gap in this literature is that the focus on the quantity of social ties excludes the assessment of the quality of ties. In the present research, to fill this gap in the literature, I integrate past research indicating that a social network perspective holds promise for predicting performance (Aldrich & Zimmer, 1986; Borgatti & Foster, 2003; Bouwen & Steyaert, 1990; Coviello, 2005; Greve & Salaff, 2003; Peng, 2004; Seibert, Kraimer, & Liden, 2001; Sparrowe, Liden, Wayne, & Kraimer, 2001) with work on how the quality of relational interactions between team members influences important organizational outcomes (e.g., Ford & Seers, 2006, Seers, 1989; Seers, Petty, & Cashman, 1995). Specifically, I merge social network theory with team-member exchange theory to examine how networking enables small business owners to gain access to referrals to new clients.

The present research proceeds as follows: I first outline my conceptual framework examining the interplay between the quantity of ties (a social network perspective) and the quality of ties (team-member exchange theory). Then, drawing on relevant literature on social ties, TMX and affective organizational commitment, I suggest that affective organizational commitment (to the networking group) will provide the mechanism by which small business owners' ties within a networking group enables the access of new potential clients. After providing an overall theoretical framework and reviewing relevant literatures, I present data from a pilot study conducted among small business owners in formal networking groups in Richmond, Virginia that provides initial support for the framework relating social ties and team-member exchange to performance outcomes for small business owners in networking groups.

After presenting the results of the pilot study, I highlight its limitations and describe a follow-up study (main study) which examines, more thoroughly, how individuals in networking groups function. In the follow-up, or main study, I expand on the findings of the pilot study to examine how, and under what circumstances, the quantity and quality of social ties impact performance using the lens of affective organizational commitment. Overall, data support the conclusion that both social ties and team-member exchange are important factors predicting the performance outcomes of small business owners in networking groups. Further, data illustrate the mediating role of affective organizational commitment between the relation of social ties and team-member

exchange on performance outcomes. I discuss implications and describe areas for future research based on these findings.

Literature Review and Research Hypotheses

Social Network Theory

A social network is a “structure composed of a set of actors, some of whose members are connected by a set of one or more relations” (Knoke & Yang, 2008, p. 8). Over the last 30 years, research focusing on the concept of social networks has expanded exponentially within the field of organizational behavior (Borgatii & Foster, 2003). Similar expansions are evident in the fields of other sciences such as mathematics and physics (Barabási, 2002; Watts, 2003) and subsequent advances across all domains are evident in the software and tools used to analyze network-related data (e.g., Borgatii, Everett, & Freeman, 2004).

The key orienting point of focus in network analysis is structural relations. These structural relations, “regularities in the patterns of relations among concrete entities” (White, Boorman, & Breiger, 1976, p. 733-734), enable the assessment of behavior and perceptions within dynamic social environments (Knoke & Yang, 2008). By studying actors and their alters (i.e., social relations), researchers can model social networks among such diverse entities as individuals, groups, organizations, companies, governments and nations.

The first exploration of social networks used an anthropological perspective to assess the relations among individuals living in a small Norwegian parish (Barnes, 1954). Subsequently, varied streams of research have led to what is considered the field of social

network analysis we see today. The three research streams (Scott, 2007) credited with influencing the contemporary field of social network analysis are 1) sociometric analysis rooted in gestalt-influenced social psychology (e.g., Moreno, 1934; Simmel, 1908), 2) interpersonal analysis in the 1930's (e.g., Roethlisberger & Dickson, 1939; Homans, 1951), and 3) anthropological perspectives from the 1950's and 1960's (e.g., Barnes, 1954, Bott, 1956; Mitchell, 1969). Mitchell (1969), in particular, codified the analysis of social networks drawing on the work of Barnes (1954) as well as Katz (1966) to describe the quality-oriented dimensions of reciprocity, intensity and durability along which relations could be evaluated.

Mitchell's (1969) codification was usurped by mathematical breakthroughs which led to the Harvard-based research streams, out of which grew the works by Granovetter (1973, 1974) and Lee (1969). These works, respectively, focused on the social relations and interactions surrounding the two seemingly different processes of 1) getting a job, and 2) searching for a doctor. Specifically, in terms of the first process of job hunting, Granovetter examined how male professional and technical workers in a Boston, Massachusetts suburb gathered information about job opportunities from their social contacts. Over half of Granovetter's sample responded that they relied on social relations to gather such information. However, the nature of the relations, whether "weak" or "strong," held particular importance. For example, "strong ties," represented by close friends and family, typically possessed shared or redundant information. However, among "weak ties," information was generally new and relevant. Thus, Granovetter

(1973) concluded that acquaintances, as opposed to close friends, likely provide more unique information about potential job opportunities.

In another line of work examining social networking, Lee (1969) sought to examine how networks facilitated the search for a doctor. Specifically, Lee (1969) examined how women found an abortionist to terminate pregnancies in areas where abortion was illegal. The transfer of information within this setting was important as doctors willing to perform such illegal activities could not advertise or solicit clients in public. For the sample, Lee contacted both abortionists as well as women who had recent experiences with abortion and she administered questionnaires and conducted interviews. The results suggested that women seeking an abortion generally approached an average of 5.8 people before reaching a doctor.

These two seminal studies set the stage for studying networking at the individual level of analysis. However, multiple conceptualizations of how to study networks at different levels are often discussed within the field of social network theory (Fombrun, 1982; Tichy, Tushman, & Fombrun, 1979). The most basic distinction is drawn by distinguishing a sociocentric view from an egocentric view (Halgin & DeJordy, 2008). Generally, sociocentric views attempt to capture characteristics of an entire network whereas egocentric studies look at the individuals within the network. Levels of analysis issues within the domain of networks are discussed at length by Knoke and Yang (2008). They describe the following more fined-grained distinctions. The most simple level is the *egocentric network* consisting of one ego and all its relevant alters (i.e., the “first zone”).

The next level is considered the *dyadic network* consisting of pairs of actors. At the third level are *triadic relations* and the final level represents the *complete network*. Various advantages and disadvantages exist in the examining of each level (Knoke & Yang, 2008).

In the present research, I focus on the egocentric networks of small business owners involved in networking groups. This level of analysis, within the present research, is crucial for two reasons. First, an egocentric analysis provides the means by which I can assess the quantity of ties that a member of a networking group has. Thus, it is methodologically the best way to assess one of the key predictors on which I focus. Second, an egocentric assessment is crucial because it represents a dimension over which an individual member in a networking group can have some influence. An individual member has influence over the relationships he/she pursues. For instance, he/she has control over how many fellow group members he/she meets in person each week. Furthermore, he/she has control over how many fellow group members he/she calls on the phone or emails each week as well. In the present research, because I seek to identify prescriptive advice about how to enable small business owners to be more effective in networking groups, the relative controllability of an ego network is an important factor.

The main way in which networks and networking influence the performance of small business owners is by facilitating access to new information and resources-- this process is rooted in the literature of social network analysis (e.g., Aldrich & Zimmer, 1986; Brass, Galaskiewicz, Greve, & Tsai, 2004; Degenne & Forse, 1999; Parkhe,

Wasserman, & Ralston, 2006; Pearce & David, 1983; Wasserman & Faust, 1994). It is important, though, to recognize the conceptual difference between the practice of networking (i.e., the initiation and sustenance of interpersonal connections for future gain) and the scientific study of social network analysis (i.e., the study of the structure and interactions of actors within networks). Social network theory provides the overarching theoretical context for framing inquiry and the practice of networking provides a site in which to apply it. Thus, in the present research, I use a social network perspective to examine how the ego networks of small business owners can influence access to important resources and information in a networking setting (Brass, 1995; Ibarra, 1993).

One of the most commonly used measures of an individual's relational network is the number of people to whom he/she is directly connected—his/her ego network (Burt, 1992). Specifically, an ego network defines those people with whom a person meets, talks, emails, or goes to for advice on a regular basis (Knoke & Yang, 2008; Roberts & O'Reilly, 1979; White & Watkins, 2000). Thus, in egocentric network studies an individual enumerates those people with whom he or she has a relationship (Knoke & Yang, 2008). For instance, Figure 1 represents a graph of an ego network analysis created for one formal networking group where there are individuals with many ties, as well as some people with no ties at all within the group. Compared to other variables, sometimes studied within social network frameworks, such as types of centrality (i.e., degree, betweenness, closeness) and density, the ego network is the variable which is most

directly influenced by an individual's actions (e.g., Freeman, 1979; Halgin & DeJordy, 2008; Krackhardt, 1987).

Contemporary research on the ego networks of small business owners has been influenced by the work of David Krackhardt (1987, 1996). Krackhardt (1987) examined the cognitive social structures in a sample of 21 managers. He had the managers identify to whom, of all the managers employed in the organization, they went for advice (Krackhardt, 1987). Data were collected on the entire network by having each manager enumerate their ego network as well as provide data about the other managers' networks. By having managers enumerate their, and other managers' ego networks, Krackhardt (1987) was able to accurately map the support network (i.e., cognitive social structure) of the management team. This type of study is valuable because the networks of managers have been shown to be a significant determinant of their ability to succeed.

For instance, Krackhardt (1996) describes the case of a transferred audit manager who, in order to perform effectively, needed to conduct an egocentric assessment of his team's interactions. When Manuel (the transferred audit manager) first arrived, backlogs were frequent and processing of information was not keeping up with demand. Krackhardt (1996) describes how, by asking each employee with whom he/she interacted for advice and questions, Manuel was able to accurately visualize the information and work flow within the group. Manuel discovered that Nancy, a member of the organization, was a source of information for almost everyone in the group. Thus, to make changes to the operations of the group, Manuel wisely incorporated Nancy in his

plans and eventually overcame, as Krackhardt (1996) describes, his “liability of newness.”

These seminal studies (Granovetter, 1973; Lee, 1969; Krackhardt, 1987, 1996) provide insight into how having information about an individual’s ego network can foster improved knowledge of how individuals in groups interact and perform (Carroll & Teo, 1996). Building on these seminal works, I extend existing research by examining how the ego network (i.e., quantity of social ties) of a member within a networking group may prove useful. For instance, consider the main goal of membership in a networking group: to gain access to the referrals and business prospects that fellow members identify. Possibly, the more numerous a person’s ego network is, the more likely it will be for him/her to gain access to scarce resources (i.e., referrals and advice). This premise has not yet been studied in the specific context of formal networking groups. However, this premise has been supported by research in the domain of entrepreneurship, where studies at the individual level have examined the ego networks of entrepreneurs, and studies at the firm level have examined the networks of organizations (e.g., Malecki & Tootle, 1996).

At the individual level, for small business owners, numerous ties in the ego network are linked to the ability to discover good business opportunities (Casson, 1982; Johansson, 2000; Singh, 2000; Zimmer & Aldrich, 1987), to learn about information and news that the individual did not know (Aldrich, 1999), and to acquire equity capital (Hustedde & Pulver, 1992). One notable study examined Israeli women entrepreneurs

and illustrated that network affiliation positively impacted profitability. Specifically, Lerner, Brush & Hisrich (1997) sampled 220 Israeli women business owners and evaluated performance using a framework of five theoretical perspectives. Their survey assessed: 1) individual motivations and goals, 2) social learning (entrepreneurial socialization), 3) network affiliation (contacts and membership in organizations), 4) human capital (level of education, business skills), and 5) environmental influences (i.e., location, sectoral participation and sociopolitical variables). With implications for the present research, Lerner et al. (1997) found that that network affiliation significantly predicted profitability. Results also showed that the use of outside advisors predicted revenue increases.

The finding, that some level of network affiliation for an individual (i.e., the number of ties they have) is beneficial for business performance (i.e., survival, innovation, financial performance) is fairly well supported within the literature (Duchesneau & Gartner, 1990; Potts, 1977). However, most extant studies using a network perspective do not assess the individual level-- most studies, instead, examine the firm level. This is indicative of a trend within the field of entrepreneurship-- the study of the individual level is less prevalent than firm level studies. Research does exist at each level (i.e., individual-level, firm-level, industry-level), and there has been much progress to support the proposition that both firm-level as well as industry-level characteristics can influence business performance (e.g. Hawawini, Subramanian, & Verdin, 2003; Short, Ketchen, Jr., Palmer, & Hult, 2007). Results, however, regarding

individual-level variables have been mixed (e.g. Begley & Boyd, 1987; Lumpkin & Dess, 1996; Sadler-Smith, Hampson, Chaston, & Badger, 2003). This has led to an abundance of firm level studies and fewer individual level studies. Overall, firm level studies show that networks and networking alliances enable the emergence of new firms or products (e.g., Larson & Starr, 1993; Soh, 2003; Witt, 2004), and that networks improve small business performance (Dubini & Aldrich, 1991; Greve & Salaff, 2003; Watson, 2007).

Indicative of a firm level analysis is a study sampling investment banks acting as advisors for merger and acquisition deals in the United Kingdom. Shipilov & Li (2008) reported on archival data collected from the Securities Data Corporation (SDC) database Worldwide Mergers & Acquisitions. They used a snowball sampling procedure to define the banks' networks. Active banks, in the mergers and acquisition market between 1992 and 2001, became the frame and Shipilov & Li coded relationships that the banks had. These data were then put into sociomatrices. This procedure is conceptually similar, though on a different scale, to Lee (1969), which I discussed earlier, where a network was examined by tracing interrelations between actors. Shipilov & Lee (2008) found that open networks enabled the access of information to new business opportunities.

Though the literature related to networks in the domain of entrepreneurship has rapidly expanded over the last twenty years, there are two reasons why additional research is needed. First, considering the focus on firm level inquiry, new research needs to address how networking affects individuals. Second, additional research is needed because there are contradictory findings in the literature regarding the relation between

networks and performance. For instance, although much of the research cited above suggests a link between networks and business success, some existing research has failed to find a significant relation between networks and firm performance (Aldrich & Reese, 1993; Cooper, Gimeno-Gascon, & Woo, 1994). Also, findings from Shipilov and Li (2008) as well as Lerner et al. (1997) suggest that the relation between networks, networking and performance may not be as simple as the extant literature represents. For example, early work on networking and performance (Lerner et al., 1997) found that participation in multiple networks negatively predicted revenue, income, and size of the business. Why might this be? One reason for these conflicting research findings may be that extant studies primarily examine only the quantity of social ties. This focus on quantity excludes the assessment of how the quality of ties impacts the benefits of networking and leaves a significant gap in the literature. Thus, in addition to suggesting that number of social ties will affect performance outcomes, I also incorporate the theoretical perspective of team-member exchange quality (i.e., TMX contributions as well as TMX receipts). Overall, team-member exchange theory, in conjunction with a social network perspective, may help to illuminate the process by which individuals in networking groups can increase the amount of referrals they receive, and thereby increase firm performance.

Team-Member Exchange Quality

Team-member exchange quality (TMX) is defined as an individual member's perceptions of his or her exchange relations within the group or team (Seers, 1989). TMX

can be categorized separately as TMX contributions or as TMX receipts (Ford & Seers, 2006). Specifically, TMX contributions refer to actions such as supporting group members when they are busy, recognizing other members for their ideas, and communicating openly. TMX receipts refer to the reciprocal opposites such as other members supporting you when you are busy, recognizing your ideas, and communicating openly with you. The need to assess employee to peer group relationships evolved as a result of the narrow focus that extant research had, at the time, which only assessed vertical, leader to follower, relations using leader-member exchange quality (LMX) (Dansereau, Graen, & Haga, 1975; Graen & Cashman, 1975). LMX focuses on the vertical dyadic relationship between a supervisor and a subordinate. Specifically, LMX assesses the quality of the leader-member relationship. Seers and colleagues note, though, that this focus ignored the exchange relationships among coworkers. Seers (1989) put forth team-member exchange quality (TMX) as a method to assess a group member's perceptions of his or her role within the group as well as his or her exchange relationships within the group as a whole. TMX, thus, assesses the quality of relationships between individual group members and presents an excellent measure with which we can assess the quality of the various social ties an individual has within a networking setting.

TMX is most often used to examine the reciprocal exchange relationships between members of a team in terms of ideas, assistance, communication, and support (Seers, 1989; Seers, Petty, & Cashman, 1995). The literature related to TMX focuses on both the antecedents and consequences of TMX. Findings exist for both individuals as

well as groups. In the following section, I address 1) the antecedents of TMX at the group level, 2) the antecedents of TMX at the individual level, 3) the consequences of TMX at the group level, and 4) the consequences of TMX at the individual level.

At the group level, antecedents studied for TMX include previous interaction, similarity, and collectivistic orientation. Alge, Wiethoff and Klein (2003), in a laboratory study, examined how teams' history of previous interactions as well as the likelihood of future interactions impacted TMX quality. They found that teams where members had past experiences together had higher group TMX than teams where there had been no previous interaction. Also, they found that teams where there was the prospect of future interaction had higher group TMX. Another study of group antecedents examined how individual similarities between employees could affect perceptions of TMX in the team (Dose, 1999). Similarity of work values was not a significant influence, though a relation was found between gender proportion and minority representation in a team and an individual's perceptions of TMX (Baugh & Graen, 1997). One more group level study was conducted by Eby and Dobbins (1997) who evaluated the collectivistic orientation within a team and subsequent implications on TMX. They sought to illustrate an association between the ratio of collectivistic individuals in a group and TMX. Results of their longitudinal study were supported. Overall, group-level cross-sectional as well as longitudinal studies on TMX conducted using diverse samples in various settings suggest that TMX is an important factor which affects the performance of teams.

At the individual level, antecedents include justice perceptions and proximity to coworkers. Murphy, Wayne, Liden and Erdogan (2003) found support for the relation between interactional justice and TMX. Murphy et al. (2003) proposed that TMX (as well as LMX) would mediate the relationship between justice perceptions and social loafing. Though TMX and interactional justice were related, no support was found for the mediated model with TMX (though results did support the mediating role of LMX). Golden (2006) studied how telecommuting affected employee's relations. Results showed that the relation was negative; the more the employee was not present (i.e., telecommuting), the more negative TMX became. In summary, the antecedents of TMX have been well developed within the literature both at the group and individual levels.

Next, I discuss the consequences of TMX-- first, at the group level, then at the individual level. For the consequences of TMX, at the group level, researchers have studied cohesiveness, participation, climate of agreement, performance, and efficiency. The most commonly examined consequence of TMX is group performance. Laboratory-based results show that ratings of team decision-making effectiveness were affected by the interaction of group TMX and task interdependence (Alge et al., 2003). Specifically, teams with higher group TMX performed better on high interdependence tasks compared to teams with low group TMX. However, when task interdependence was low, TMX was not significantly related to decision-making effectiveness. Another notable study at the group level examined teams in a military training setting. Jordon, Feild and Armenakis (2002) showed that group TMX was related to subjective performance ratings by

supervisors, though no relation was found between TMX and objective performance ratings. Seers et al. (1995) found that, over time, teams with improved group TMX had better group efficiency. Eby and Dobbins (1997) found that group TMX had a positive impact on team performance among student groups over time.

An additional consequence of TMX at the group level that Ford and Seers (2006) studied was group agreement on climate. In a study assessing TMX, TMX differentiation (i.e., variability), TMX receipts (i.e., effort received from the group) and TMX contributions (i.e., effort put forth to the group), results showed that average high quality LMX and TMX relationships predicted within-group agreement on some measures of climate (Ford & Seers, 2006; Seers, Ford, Wilkerson, & Moorman, 2001). And, results showed that TMX differentiation may have negative effects on within-group agreement on climate. This particular study has important implications for the present research. Specifically, I build on Ford and Seers (2006) in that I, also, separate TMX into TMX contributions and TMX receipts in my research model. I discuss this further later in this section.

At the individual level, TMX has been used as a predictor of satisfaction, turnover, performance, social loafing, organizational citizenship behaviors, and commitment (e.g., Cole, Schaninger, & Harris, 2002; Kamdar & Van Dyne, 2007; Liden, Wayne, & Sparrowe, 2000; Major, Kozlowski, Chao, & Gardner, 1995; Witt, Hochwarter, Hilton, & Hillman, 1999). Seers (1989) illustrated longitudinally that TMX, above and beyond LMX, predicted job satisfaction. Major, Kozlowski, Chao and Gardner

(1995) found that new employees experienced higher job satisfaction if they had high perceived TMX. Liden, Wayne and Sparrowe (2000) also found a positive relation between TMX and work satisfaction. Interestingly, Golden (2006) found the relation between TMX and job satisfaction to be more complicated. In a sample of telecommuters, there was a curvilinear relationship such that job satisfaction increased as a function of TMX quality but decreased at higher levels.

Regarding the outcomes of organizational climate, Scott and Bruce (1994), in a sample of employees in an R&D facility, found that individuals' TMX perceptions were not related to perceptions of climate. TMX was, however, shown to influence organizational citizenship behaviors (Kamdar & Van Dyne, 2007) as well as individual job performance above and beyond the variance accounted for by LMX and the job's characteristics (Liden et al., 2000; Seers, 1989). Specifically, Seers (1989) illustrated that TMX quality interacted with motivation to impact performance ratings. Results showed that TMX could serve as a buffer to minimal motivation. Specifically, if individual motivation were low, high TMX quality improved performance, but when motivation was high, TMX did not affect performance.

Using another outcome, Murphy et al. (2003) looked at social loafing. Results illustrated that subordinates' TMX perceptions and supervisory ratings of subordinates' social loafing were negatively associated. Another individual outcome examined in the literature is turnover intention. Major et al. (1995) illustrated a negative association between TMX and turnover intention. For new employees, TMX moderated the relation

between role clarity expectations and turnover intentions. If role clarity expectations were not satisfied, low TMX resulted in higher turnover intention. Interestingly, however, if role expectations were exceeded, high TMX predicted higher turnover intentions.

The last individual level consequence I examine, and the one most relevant to the present research, is organizational commitment. TMX perceptions and organizational commitment have been assessed in numerous studies. For instance, Liden et al. (2000) found that TMX perceptions were significantly related to organizational commitment. Also, Major et al. (1995) demonstrated that TMX impacts new employees' commitment such that employees with unmet expectations but who had high levels of TMX had significantly higher organizational commitment compared to employees with unmet expectations and low TMX. Witt et al. (1999) also found that TMX quality was positively related to individuals' commitment to teams although this relation was moderated by team identification. Specifically, for individuals with no identification with the team, individuals with high TMX had significantly higher commitment than individuals with no identification and low LMX.

Despite the increases in research on TMX, a gap in the literature exists, with regard to the study of TMX in formal networking groups. Specifically, the quality of TMX, at high or low levels, may significantly impact the processes at work in networking groups. As Liden et al. (2000) suggested, low-quality TMX is characteristic of exchanges based on requirements for work such as task completion while high-quality TMX

represents the reciprocal exchanges that go beyond what is required simply for task completion (Tse & Dasborough, 2008).

In assessing the role that TMX can play in enabling small business owners to access new referrals, I sought a concept that members could control-- similar to how members could control their ego network (i.e., how many fellow members they met with, etc.). Thus, I turn to Ford and Seers (2006) who provided the model for separating the twelve item TMX measure into six TMX contribution items and six TMX receipt items (see appendix for actual measure). Individual members in networking groups can control their own level of TMX contributions to the group (i.e., members can work to communicate clearly, recognize the efforts of other members and help other members when they are busy). By focusing on TMX contributions, I more clearly examine the reciprocal relationships which exist within networking groups with respect to TMX. Members input TMX contributions and hope to receive reciprocity in the forms of referrals and TMX receipts. Networking groups are an unique emerging phenomenon and the assessment of how TMX contributions and TMX receipts impact the effectiveness of individual business owners may prove very valuable.

For instance, a close examination of Figures 1 and 2 reveals an interesting phenomenon. Within the ego network graph (Figure 1), there are individuals with no ties to the rest of the group. However, in Figure 2, those same individuals are the recipients of referrals passed. It seems that having social ties within the group is a sufficient, but not, necessary condition to receiving referrals from fellow group members. This trend, and a

review of the extant literature, led me to consider other relevant factors which may impact the performance of individuals in networking groups. Assessing only the quantity of ties in a person's ego network leaves open the question of what level of quality (i.e., team-member exchange relationships) exists in the relationships among these members. The notion of assessing quality of social ties has been discussed by Mitchell (1969), but limited research has built on these early ideas about the importance of considering quality of social ties. Regarding the role of networking group interactions in accessing new clients, if the quality of relationships is poor, then perhaps fewer new prospects will be identified by fellow members. And, since the goal of involvement in a networking group is to have other members identify potential prospects and refer them to you, the quality of these interactions may be especially relevant. One theoretically rich way to investigate the quality of ties is to build on early work on TMX quality. Therefore, to complement a social network perspective, I use TMX theory to guide the examination of how the quality of the relationships within formal networking groups interacts with quantity of ties to predict individual members' performance outcomes. Additionally, my overall conceptualization also proposes a potential mediating mechanism for the relation between the interaction of quality and quantity of ties and performance. Specifically, I propose affective organizational commitment as a mechanism by which quality and quantity of ties contribute to improved networking performance (i.e., increased numbers of referrals to new business received).

The Mediating Role of Affective Organizational Commitment

Imagine, for a moment, that you are a small business owner involved in a formal networking group. Imagine you have a high number of social ties within the group and that you perceive your team-member exchange relations to be quite good. Results of my pilot study, reported later, show that this situation predicts performance (i.e., receiving many referrals from group members). However, *why* would this be the case? Although these pilot data are encouraging, we are left with no insights into the “process” by which social ties and TMX quality relate to the effectiveness of business owners in networking groups. One construct which has promise for explaining the mechanism by which ties and TMX are related to performance is affective organizational commitment. The conceptual models I propose are illustrated in Figures 4 and 5.

Organizational commitment has been defined in many ways within the literature such as the linking of the identity of an individual with the organization and the process where the goals of the individual become similar to the goals of the organization (Meyer & Allen, 1997). Mowday, Steers and Porter (1979) described organizational commitment as a strong acceptance, by an individual, of the organization’s goals, the willingness to exert substantial effort on behalf of the organization, as well as the desire to maintain membership in the organization. Across all the available definitions, three themes emerge: affective orientation toward an organization, acknowledging the costs incurred with leaving the organization, and the desire to maintain membership within the organization (Meyer & Allen, 1997).

Organizational commitment is one of the most often studied constructs in the domain of organizational behavior with research focusing on antecedents as well as consequences across the main dimensions of affective, normative and continuance commitment (Mathieu & Zajac, 1990; Tett & Meyer, 1993). Meyer, Stanley, Herscovitch and Topolnytsky (2002) conducted an updated meta-analysis in which results indicated that organizational commitment predicted a wide array of organizational outcomes (e.g., turnover, performance, attendance, organizational citizenship behavior). Although much research on the topic of organizational commitment shows support for a three component model (i.e., affective, normative and continuance) the three dimensions are indeed independent (Hackett, Bycio, & Hausdorf, 1994). In fact, Meyer et al. (2002) found that affective organizational commitment, rather than normative or continuance commitment, had the strongest positive relations with relevant outcomes such as performance and organizational citizenship behaviors. Furthermore, affective organizational commitment also predicted lower stress levels and less work–family conflict.

Affective organizational commitment generally refers to a person's emotional attachment, identification and involvement within an organization. Alternatively, normative commitment refers to the pressures on an employee to remain affiliated (i.e., organizational socialization). Finally, continuance commitment refers to the costs a person associates with leaving an organization (Meyer & Allen, 1997). These distinctions between affective, normative and continuance commitment are important with regards to the study of networking groups. Specifically, regarding social networks, Bozionelos

(2008) surveyed 316 individuals to assess the impact of intra-organizational network resources on extrinsic and intrinsic career outcomes. He found that network resources were, in fact, related to motivation as well as affective commitment. Recently the affective component of social interactions has been explored with regards to TMX (e.g., Tse, Dasborough & Ashkanasy, 2008; Witt et al., 1999). For instance, Tse & Dasborough (2008) proposed that future research should explore how TMX creates positive affective responses in individuals and thus leads to productive team behaviors. Building on this initial research, in the present work, I focus on affective commitment as a key mediating variable between the relation of TMX contributions and social ties and the outcomes of referrals received and TMX receipts.

This proposition, that affective commitment mediates the relations between social ties, TMX contributions and effectiveness at getting referrals and TMX receipts is intuitively reasonable to imagine and theoretically plausible. For instance, in the situation where a member of a group has numerous social ties as well as high perceptions of his/her own TMX contributions, he or she may be especially likely to grow attached to the group (e.g., have positive affective associations, Tse & Dasborough, 2008). The more connections a person has in the group, and the more effort and energy he/she puts into the group (and the better the interactions), the more likely a person may be to feel connected and committed to that group. This line of thinking has theoretical roots in interdependence theory and social exchange theory. First, I discuss interdependence theory before moving to social exchange theory.

According to interdependence theory, an individuals' desire to remain committed to a relationship (Agnew, Van Lange, Rusbult, & Langston, 1998; Drigotas & Rusbult, 1992) or a job (Farrell & Rusbult, 1981; Rusbult & Farrell, 1983) is predicted by high investment, high satisfaction and low appraisal of alternatives. Imagine a situation in which a networking group member has many social ties, is dedicated to contributing high quality TMX relations, and has few alternatives with other groups. These three factors (high investment, high satisfaction and low appraisal of alternatives) are characteristics that this person in a networking group (i.e., who has many social ties and high perceptions of TMX contributions) may exhibit.

Interdependence theory has been widely applied to the interpersonal relationships literature with limited extensions to the domain of work (see Rusbult & Van Lange, 2003 for a review). A partners' commitment in interpersonal relationships has been shown to predict accommodation, pro-relationship behavior, and reciprocity (e.g. Wieselquist, Rusbult, Foster, & Agnew, 1999). Specifically, commitment has been linked to pro-relationship behavior such as forgiveness (Finkel, Rusbult, Kumashiro, & Hannon, 2002), accommodation (Kilpatrick, Bissonnette, & Rusbult, 2002), long-term focus and well-being (Drigotas, Rusbult, & Verette, 1999; Rusbult & Van Lange, 2003). Most recently, Kumashiro, Rusbult and Finkel (2008) provided additional insight into these findings. Kumashiro et al. (2008) described the phenomenon of an equilibrium model that exists between and among individuals. Specifically, people seek equilibrium in their personal and relational interactions and the experience of personal-relational

disequilibrium motivates an attempt to restore equilibrium. Transferred to the domain of networking groups, imagine a situation in which one member (let's call her Keri) has numerous ties and is consistently improving the communication and functioning within the group. Additionally, imagine that Keri is easy to identify as one of the most committed members of the group (e.g., she always attends meetings on time, completes tasks quickly, and refers many new clients to fellow group members). Following the line of thinking proposed by Kumashiro et al. (2008) any member who is the recipient Keri's contributions to the group may feel as though there is a disequilibrium. Keri did something for them, but they may not have done something for Keri. Kumashiro et al. (2008) point out that achieving equilibrium promotes life satisfaction. This finding is consistent with well-researched hypotheses related to interpersonal and professional balance (e.g., Davis & Rusbult, 2001; Heider, 1958). Thus, considering the role that commitment is shown to have on pro-relational behavior and reciprocity, we can begin to conceptualize how an individual member's commitment (i.e., contribution) to a networking group could lead to increased receipts (i.e., referrals to potential clients) from the group.

The proposed relationship between ties and TMX contributions on commitment, referrals received and TMX receipts also has theoretical roots in social exchange theory (e.g., Cropanzano & Mitchell, 2005; Kelley & Thibault, 1978; Thibault & Kelley, 1959). Specifically, drawing on the norm of reciprocity (i.e., Molm et al., 2007), it is theoretically justifiable to propose that individuals who put more time (i.e., making

social ties and contributing TMX) into a group will receive more from it (i.e., referrals to new clients and TMX receipts). Increased commitment, then, of an individual to his or her networking group would lead to reciprocity from the group in the form of referrals to new clients and, likely, more clear communication, recognition and assistance when needed. In summary, drawing from both a practical and theoretical perspective, I propose that affective organizational commitment (influenced by social ties and TMX contributions) are important factors to consider when examining the effectiveness of small business owners in networking groups.

Conceptual Framework: Individual versus Group Level Issues

Two brief notes about the present proposal must be mentioned: 1) groups, and 2) levels of analysis. First, I will briefly talk about the issue of groups and then I will address the level of analysis issue.

Although many new entrepreneurs do choose to become members of networking groups and pay a membership fee in hopes of increasing the number of prospects who are identified as potential customers, others choose not to do so. Interestingly, extant literature informs us about each perspective. Much attention within the domains of psychology and organizational behavior extols the virtues and pitfalls of becoming involved in groups (for reviews see Forsyth, 2005). Additionally, within the domain of entrepreneurship, recent attention has been devoted to the advantages and disadvantages of creating entrepreneurial groups or teams to aid in the entrepreneurial process (e.g., Guzzo & Dickson, 1996; Klepper, 2001; West, 2007). Proponents of groups in the

domain of entrepreneurship cite diversity of opinion, increased knowledge, and ability to seek and identify additional resources (e.g., Brush, Greene, & Hart, 2001; Clarysse & Moray, 2004; Colombo & Grilli, 2005; Grandi & Grimaldi, 2003; Hayton & Zahra, 2005; Neergaard, 2005) as advantages of including groups in the entrepreneurial process. Indeed, venture capitalists have long assessed the prospects of entrepreneurial groups and teams when evaluating potential investments (Cyr, Johnson, & Wellbourne, 2000; Zacharakis & Meyer, 1998), and a growing body of research is now focused on examining this entrepreneurial interaction process. Regarding the present proposal, it is important to note that unique dynamics often play a role in the interactions of individuals in groups. In the present proposal, I focus on the individual, though future research studying networking groups may be well-advised to examine group interactions within networking groups.

Within the domain of organizational behavior, many prominent authors have addressed levels of analysis issues. Calls for more in-depth process analysis, and meso-level examinations across domains are easily found (e.g., Goldspink & Kay, 2004; House, Rousseau, & Thomas-Hunt, 1995; Kozlowski & Klein, 2000). And, as discussed earlier, levels issues within the domain of entrepreneurship are a pressing issue as well.

Within the present research, I focus on the individual level. Specifically, I focus on identifying actions that individual entrepreneurs can undertake in order to improve networking performance. I endeavor to provide prescriptive advice to small business owners involved in networking groups about how to manage their time and energy in

order to maximize their chances of improving firm performance. I acknowledge that multiple perspectives at varying levels of analysis are important. However, in the current research, I hope to provide a means to identify individual-level determinants of networking performance onto which future macro and meso inquiry can build.

Synthesis

In summary, social structures are a useful mechanism through which entrepreneurial processes can be understood (Uzzi, 1997), and recent research has attempted to refocus attention on how small business owners interact in networks and in networking groups. This research is advancing the literature related to entrepreneurial groups and teams (e.g., Eisenhardt & Schoonhoven, 1990; Gartner, Shaver, Gatewood, & Katz, 1994; Timmons, 1994). To further this effort, I combine the two theoretical approaches of social network perspectives and team-member exchange theory, and examine the mechanism of affective organizational commitment, in hopes that I can contribute to the literature on networking effectiveness. I seek to identify prescriptive advice regarding what members in networking groups can do on a regular basis in order to improve access to new clients. Specifically, I posit the following hypotheses. I divide these hypotheses into two sections: Hypotheses 1, 2 and 3 represent a replication and extension of the pilot study results. Hypothesis 1 examines the impact of social ties versus TMX on the outcome of TMX contributions. Hypothesis 2 examines the impact of social ties versus TMX on the outcome of referrals received. Hypothesis 3 examines the interaction between ties and TMX on the outcomes of both TMX receipts and referrals

received. In Hypothesis 3, I examine what interaction is predicted when social ties are numerous-- I expect no interaction if social ties are less numerous.

Hypotheses 4, 5 and 6 present three theoretically-derived exploratory hypotheses related to potential effects which will enable me to further examine the effectiveness of small business owners in networking groups. Hypothesis 4 proposes that TMX receipts will have a direct effect upon referrals received. In the proposed research model, I treat TMX receipts as an outcome variable. However, drawing on extant research I acknowledge that TMX receipts may have a direct effect within the model and thus, I present this exploratory hypothesis (i.e., Hypothesis 4). Similarly, within the current research model I present affective commitment as the mediating mechanism. However, drawing on extant research which treats affective commitment as a predictor, I present Hypothesis 5 to account for this possibility. Finally, with Hypothesis 6, I propose the mediated model which I tested.

Research Hypotheses

Competing Hypotheses for the Outcome Variable of Referrals

Hypothesis 1a. Quantity of social ties will have a more positive relation with an individual's referrals received than team-member exchange contributions (TMX contributions).

Hypothesis 1b. Team-member exchange contributions (TMX contributions) will have a more positive relation with an individual's referrals received than quantity of social ties.

Hypothesis 1c. Quantity of social ties and team-member exchange contributions (TMX contributions) will have equally positive relations with an individual's referrals received.

Competing Hypotheses for the Outcome Variable of Team-Member Exchange Receipts

Hypothesis 2a. Quantity of social ties will have a more positive relation with an individual's team-member exchange receipts (TMX receipts) than team-member exchange contributions (TMX contributions).

Hypothesis 2b. Team-member exchange contributions (TMX contributions) will have a more positive relation with an individual's team-member exchange receipts (TMX receipts) than quantity of social ties.

Hypothesis 2c. Quantity of social ties and team-member exchange contributions (TMX contributions) will have equally positive relations with an individual's team-member exchange receipts (TMX receipts).

Hypothesis for the Interaction of Ties and Team-Member Exchange Contributions

Hypothesis 3. There will be an interaction of social ties and team-member exchange contributions on the outcomes of referrals received and team-member exchange receipts. Specifically, for individuals who report more numerous social ties, relative to fewer social ties, TMX contributions will matter such that individuals with high TMX

contributions will report greater numbers of referrals received and higher TMX receipts than individuals with low TMX contributions

Exploratory Hypotheses

Hypothesis 4. Team-member exchange receipts (TMX receipts) will be positively related with an individual's referrals received such that individuals reporting higher TMX receipts will report higher numbers of referrals received than individuals with lower TMX receipts.

Hypothesis 5. Affective organizational commitment will positively related with an individual's referrals received and TMX receipts such that individuals reporting higher affective organizational commitment will report higher numbers of referrals received and higher TMX receipts than individuals with lower affective organizational commitment.

Hypothesis 6. Affective organizational commitment will mediate the relationship between the interaction of social ties and TMX contributions on amount of referrals received and level of TMX receipts from group members. Specifically, individuals who report higher quantities of ties, relative to lower ties, and greater quality of TMX contributions will have increased levels of affective organizational commitment. This, then, will predict higher numbers of referrals received and higher amounts of TMX receipts from group members.

Pilot Study

Overview Pilot Study

Considering that this line of research, combining a social network perspective and TMX, is exploratory, I conducted a small pilot study of three formal networking groups in Richmond, Virginia (Pollack & Rutherford, 2008). Overall, results indicate that quantity of social ties and quality of team-member exchange relationships, within networking groups, are related to an individual's ability to gain access to referrals (i.e., new potential clients). A review of the method and results, in the following section, provides insight into the effectiveness of small business owners in networking groups. After examining these results, I describe relevant limitations. Then, I discuss how to build on these data by conducting my main study.

Participants Pilot Study

To initially examine what relates to the effectiveness of entrepreneurs, I conducted a study of three separate entrepreneurial networking groups in Richmond, Virginia. I collected internet-based survey data in each group after receiving consent from each individual member. I collected full roster-style data for each group (i.e., each groups' members were listed on each survey and, for each question, the member responded individually with directed reporting for each other member's interaction and referrals passed).

I recruited entrepreneurs ($N = 23$; women = 11) with varying ages ($M = 41.67$, $SD = 10.18$). There was a range of occupations; industries in which participants worked included such diverse options as accounting, insurance, real estate, landscaping, web-design, vending services and financial services. On average, the participants worked 54.21 hours per week ($SD = 15.21$). Each entrepreneur joined their group relatively recently (tenure $M = 31.75$ months, $SD = 25.34$ months). The average tenure of each entrepreneur at their own company was over six years ($M = 75.47$ months, $SD = 98.97$ months).

Measures Pilot Study

Social Network Ties (Ego Network). I administered a 6-item scale to assess an individual's ego network (ties) within their group. The measure was conceptually similar to past assessments (Burt, 1992; Krackhardt, 1987). Specifically, participants reported how many people in the group they talked to each week, talked to each day, e-mailed per week, e-mailed per day, went to for work-related advice, and had come to them for advice ($\alpha = .82$).

Team-Member Exchange (TMX). Team-member exchange was measured using a thirteen item scale (Ford & Seers, 2006; Seers, Ford, Wilkerson, & Moorman, 2001). Participants responded to the first twelve items assessing relationships with team members on a 5-point Likert type scale ranging from 1 (*strongly disagree*) to 5 (*strong agree*). For the centroid item, assessing quality of overall group interaction, the scale is a 5-point Likert type scale ranging from 1 (*extremely ineffective*) to 5 (*extremely*

effective). The measure included matched items assessing quality of exchange relationships with team members and their reciprocal opposites such as “When other group members are busy, I often volunteer to help them out,” and “When I am busy, group members often volunteer to help me out.” The scale exhibited good internal reliability ($\alpha = .90$).

Business Transacted. One question assessed business referrals passed. Participants were asked: “Who in this group has passed you referrals which resulted in transacted business in the last twelve months?” ($M = 6.70$, $SD = 6.08$). We also asked the question of: “How much business, in revenue, was generated?” ($M = \$9,572$, $SD = \$9,358$).

Results from Pilot Study

Due to nesting of individuals in groups, I calculated the intraclass correlations (ICC). The assumption of independence was not violated and thus I analyzed the data at the individual level. To proceed with the analysis, first, I examined the data using bivariate correlations. Second, I reported OLS regression results based on the recommendations of Cohen, Cohen, West and Aiken (2003) for testing interactions with continuous variables. One final note, for the interaction between quantity (ties) and quality (TMX), I reported main effects (for social network ties and TMX) based on the model in which the interaction term was included.

For this pilot study, means, standard deviations, reliabilities, and correlations between relevant variables are presented in Table 1. To examine my hypotheses, I

assessed the various intercorrelations between the relevant variables. My first and second hypotheses related to the direct effects of social ties and TMX on how many other group members passed referrals to potential new clients. The first hypothesis in the pilot study was that the quantity of ties in a person's ego network would be significantly correlated to how many people within their group passed them business [$r(21) = .49, p < .05$]. This was supported. Additionally, I found support for my second hypothesis that higher average TMX ratings would be significantly correlated with increased numbers of people passing business [$r(21) = .42, p < .05$]. Again, this was supported. I tested for the relations between ties and TMX with financial performance, and quantity of ties was not significantly correlated to monetary amount of business transacted [$r(21) = .17, p = .45$], and neither was TMX [$r(21) p = .31$]. However, interestingly, I did find support for the relationship between the amount of group members passing referrals and subsequent revenue generated [$r(21) = .56, p < .01$].

To examine my third exploratory hypothesis, the interaction between social ties and TMX, I used the standard regression approach to explore interactions with continuous variables (Cohen et al., 2003). The results from the following regression analysis are illustrated in Figure 3. To test the hypothesis that more numerous (versus less numerous) social ties are an especially robust predictor of number of people passing referrals for individuals with high perceived TMX, I first regressed referrals passed on social ties, TMX and their interaction term (illustrated in Figure 3) ($\beta = .61, t(20) = 3.22, p < .01$ ($R^2\Delta = .25$)). The social ties x TMX interaction reached significance. Tests of

simple slopes conditioned one standard deviation above and below the means of social ties and TMX (Aiken & West, 1991) revealed the association of TMX with referrals passed among individuals with more numerous social ties ($p < .05$) and a non-significant relation ($p > .05$) for individuals with fewer social ties. This analysis also revealed non-significant main effects for quantity of ties in a person's ego network on numbers of people referring business ($\beta = -.01$, $t(20) = -.05$, $p = .96$), but a significant main effect for higher average TMX ratings on people referring business ($\beta = .39$, $t(20) = 2.06$, $p = .05$). I also conducted a test of the interaction between social ties and TMX on amount of monetary business transacted and it resulted in a marginally significant interaction in a similar pattern as shown in Figure 3 [$\beta = .43$, $t(20) = 1.79$, $p = .09$ ($R^2\Delta = .13$)].

Discussion Pilot Study

Although correlations reveal a relation, in testing the interaction of social ties and TMX, I found that the main effect of a person's ego network is not related to referrals passed. This seemingly contradicts existing data which indicate that quantity of ties matter. Perhaps, it is not a simple relationship. Rather, these preliminary findings suggest that a factor to consider is the quality of social ties. More specifically, individuals with high TMX, relative to low TMX, reported more referrals passed when they have a lot of social ties. These findings extend the work of Seers and colleagues (1989, 1995) and hint at the potential for future research to predict networking performance outcomes by merging TMX and social network perspectives. Overall, the results of the interaction

between social network ties and TMX provide the basis for future inquiry to replicate and extend these findings.

Though the results of these findings from the pilot study are encouraging, there are three important limitations. First, the sample size was quite small. Of the potential ninety small business owners across three groups, only twenty-three responded. Based on feedback from the pilot study participants, the factors which precipitated the low response rate included the following. First, because I collected full, roster-style data, each person's name had to be on the survey. In order to do this, the Institutional Review Board requested that each participant sign a form agreeing to have their name actually listed on the survey. Any person not signing that form could not have their name listed on the survey. That step alone, and people opting out early, cut 30% of my potential sample. Roughly 30 people did not return the form. Second, due to the roster-style data collection method, participants provided feedback that the instrument was too long. This further reduced the number of respondents by roughly 20. That already cut the sample down, but then roughly 15 people simply chose not to complete the survey. In the proposed research, I address the issue of how to increase response rates, and thereby sample size.

The second main limitation of this pilot study is that TMX is not separated into TMX contributions and TMX receipts. Due to my small sample size, these analyses were not possible. Thus, in building on the pilot study, within my follow-up study I do test the relations between TMX and social ties on outcomes by having TMX separated as TMX contributions and TMX receipts.

The third main limitation of the pilot study is that I do not address the question of why social ties and team-member exchange influence the effectiveness of small business owners in networking groups. In order for these findings to be practically and theoretically useful, identifying the conditions under which ties and TMX matter is important. Therefore, I include the construct of affective organizational commitment as a mediating variable in my follow-up study.

Methods Main Study

Participants Main Study

I recruited entrepreneurs ($N = 336$; women = 36%) with varying ages ($M = 43.75$, $SD = 10.58$) across 24 networking groups in Richmond, Virginia. A range of occupations were represented, similar to the Pilot Study-- industries in which participants worked included such diverse options as accounting, insurance, real estate, landscaping, web-design, vending services and financial services. On average, the participants worked 48.14 hours per week ($SD = 12.41$). Each entrepreneur joined their group relatively recently (tenure $M = 2.30$ years, $SD = 2.45$ years). The average tenure of each entrepreneur at his or her own company was over five years ($M = 5.67$ years, $SD = 6.60$ years). Again, similar to the Pilot Study, the goal of each group member is to identify new prospects and refer business to each other (Watson, 2007). Each group was currently active and had members representing non-overlapping industries (one small business owner, per profession, per group).

Procedures

The main goal within my procedures was to increase response rates above those evident in my pilot study. Access to networking groups was, again, provided by Mark Deutsch, Director of Business Networking International, Virginia Region. He provided me the contact information for 24 networking groups. I made e-mail contact with the leadership team (i.e., President, Vice President, Treasurer) of each networking group asking them to forward, via e-mail, the website address of a twenty-minute, on-line

survey for their members to complete. Data collection took place from February 15th, 2009 through March 15th, 2009.

I worked to increase response rates in three ways. First, I made contact with the leadership team of every group to answer any questions they had. Second, each group (i.e., all group members, not just the leadership team) received an e-mail reminder once each week with the link to the on-line survey. Third, cash prizes were awarded for the groups reaching a 90% response rate (7 groups total reached this threshold). The group which reached an 100% completion rate first earned a cash prize of \$300. All groups which reached 90% earned a \$200 cash prize.

In addition to the actions described above, based on the recommendations of Borgatti (2008), I reduced the length of the survey instrument by changing the design from full roster-style data collection to an unaided recall format which saved time and still yielded quality data. This is consistent with recommendations from Halgin & DeJordy (2008) regarding egocentric data collection using name generation to obtain a list of an ego's alters.

Across the 24 networking groups, there were a total of 534 possible respondents. Overall, 336 group members responded. Thus, the overall response rate was 63%.

Measures

Team-Member Exchange (TMX) contributions and Team-Member Exchange (TMX) receipts. Using the TMX 12 measure, consistent with my theoretical approach, I assessed both TMX contributions and TMX receipts for each group member (Ford &

Seers, 2006; Seers, Ford, Wilkerson, & Moormann, 2001). Six questions related to TMX contributions and included items such as: “When other group members are busy, I often volunteer to help them out.” Six others assessed TMX receipts and included items such as: “When I am busy, group members often volunteer to help me out.” Participants responded on a 5-point Likert type scale ranging from 1 (*strongly disagree*) to 5 (*strong agree*). I used TMX contributions (i.e., even numbered items on TMX scale) to the groups as an independent variable. I used TMX receipts (i.e., odd numbered items on TMX scale) as one of the dependent variables. The reliabilities for these two scales were .82 and .81 respectively.

The present research revealed that TMX contributions and TMX receipts had convergent as well as divergent patterns of relations with variables assessed. I found the relations between TMX contributions and receipts to be similar for the variables of social competence and tenure within BNI Group. Also, interestingly, TMX contributions and receipts had similar correlations across the variables of quantity of social ties and amount of annual revenue generated from BNI activity. However, I found notable divergence between the relations of TMX contributions and receipts for the variables of tenure in own company, entrepreneurial self-efficacy, affective organizational commitment, satisfaction with group (i.e., contributions as well as receipts), turnover intentions, and referrals (i.e., received as well as passed).

Examination of these various relations revealed a discernable pattern. TMX contributions was more closely related to input-related variables such as entrepreneurial

self-efficacy, how many people you passed business, and satisfaction with contribution to the group. TMX receipts, however, was more closely related to outcome-type variables such as affective commitment, satisfaction (with receipts from group), and turnover intentions. In light of these patterns, the separation of TMX contributions and TMX receipts, in the present research, builds on work by Ford & Seers (2006) as well as Seers et al. (2001).

However, despite the convergent and divergent patterns between TMX contributions and TMX receipts, these patterns were less evident than in previous research. Additionally, the intercorrelation between TMX contributions and receipts was higher in the present research (i.e., .74) than either Ford and Seers (2006) found (i.e., .63) or Seers et al. (2001) found (i.e., .49).¹ Thus, as evidence in the present research regarding the distinction between TMX contributions and TMX receipts appeared more equivocal than that of past studies, and considering the strong bivariate association, particular caution is needed regarding the interpretation of the hypothesized results of this study.

Along these lines, to further explore the factor structure of TMX within the present data, I conducted a confirmatory factor analysis (CFA) (e.g., Williams, Ford, & Ngyyen, 2002). The results of the CFA, using LISREL 8.51 (Joreskog & Sorbom, 1993), are presented below. The hypothesized model (TMX two factor model of contributions and receipts) did not fit these data as well as expected: $X^2(53, N = 336) = 716.92, p < .05$,

¹ Ford & Seers (2006) examined TMX aggregated to the group level (i.e., ATMX) rather than TMX at the individual level which was where the present research focused.

comparative fit index = 0.64, standardized root-mean-square residual = 0.10, and root-mean-square error of approximation = 0.20. Overall, the SRMR is close to being within the acceptable range of values. However, the results for the CFI and the RMSEA fall substantially short of meeting the goodness of fit criteria suggested by Burnette and Williams (2006).

Considering the lack of support that this CFA revealed for a two factor structure of TMX within the present data, I conducted an exploratory factor analysis (EFA) as well. I used the EFA to examine whether the TMX scale consisted of two latent constructs-- TMX contributions and TMX receipts. Based on Conway and Huffcutt's (2003) review of EFA practices I examined the factor structure with principal axis factor factoring. In line with recommendations (e.g., Conway & Huffcutt, 2003; Fabrigar, Wegener, MacCallum, & Strahan, 1999; Ford, MacCallum, & Tait, 1986; Gorsuch, 1997), I chose varimax rotation to produce better simple structure (see Table 2 for rotated solution as well as relevant Eigenvalues and percentages of variance accounted for). Overall, results from this CFA and EFA suggest directions for future research, related to the TMX construct, on which I elaborate in the overall discussion of the present research.

Egocentric Network. I started by using a 5-item index to assess an individual's ego network (ties) within his or her group. This adapted index was conceptually similar to past assessments of ego networks (e.g., Krackhardt, 1987). Specifically, Krackhardt (1987) examined the relationships among 21 high tech managers in one organization. Krackhardt (1987) had managers identify from whom, of the other managers, they sought

advice. Within egocentric studies, an individual (the ego) constructs his or her network by identifying with whom he/she has a specific relationship. Therefore, the questions that I had participants answer were as follows: “With how many members of this group do you meet in person weekly about business-related matters? With how many members of this group do you talk on the phone weekly about business-related matters? How many members of this group do you e-mail weekly about business-related matters? To how many members of this group do you go weekly for advice about business-related matters? How many members of this group come to you weekly for advice about business-related matters?” I assessed weekly (rather than daily) interactions for participants based on advice, and results, from Pilot Study respondents. Specifically, individuals did not interact with many group members daily. Members, rather, categorized their activity on a weekly basis. Thus, I assessed weekly interactions here.

Overall, my initial plan was to use all of the five questions related to weekly interactions. However, in the process of inspecting these data before proceeding with analyses bearing on my hypotheses, I noted divergence among the correlations between the various index items. Specifically, the correlations among 4 of the 5 items approximated a pattern which was consistent with the existence of a latent construct. The correlations, however, among email communication and the other items were notably discrepant. Thus, I conducted my analyses twice-- once with the initial 5 item index and once with a 4 item index of the convergent items. These two sets of analyses produced generally similar findings-- thus, presenting both would not enhance the meaning of these

data. I presented the analyses of these data using the 4 item index. To the extent that these 4 items appeared to reflect an interaction pattern distinct from the pattern of email communications, the internal consistency evident in this version (i.e., the 4 item index) offers the additional potential benefits commonly associated with scale reliability.

In order to examine the diversity of social ties, rather than simply the quantity, I asked participants to respond to the following five open-ended, qualitative, questions: “Please list the members of this group with whom you meet in person weekly about business-related matters. Please list the members of this group with whom you talk on the phone weekly about business-related matters. Please list the members of this group with whom you e-mail weekly about business-related matters. Please list the members of this group to whom you go to weekly for advice about business-related matters. Please list the members of this group who come to you weekly for advice about business-related matters.” By asking members to qualitatively list (i.e., type in) the names of the people with whom they had contact I was able to assess diversity of ties. Again, however, similar to the index of quantity of social ties, I did exclude the data for the question related to weekly e-mail interactions. For the diversity index, I manually counted up the number of different names people listed across all the questions. For instance, imagine that a member listed Ali, Joel and Eli as people met with each week. Then, imagine the same member listed Steve, Amy, Joel, Pettra, Ali and Eli as people talked to each week. This would amount to a diversity score of 6. Using the method in the previous paragraph (i.e.,

strictly quantity), that would have resulted in a quantity score of 9. I included both types of questions in order to assess quantity versus diversity of ties.

From a convergent validity perspective, the assessments of social ties in the present research build on work by Smith et al. (2005) who found a positive relation between number of contacts in a person's ego network and knowledge creation capability. Specifically, in the present research I found a positive relation between quantity of social ties and the percentage of annual revenue a person generated from networking activity. Also, from a convergent validity perspective, the present work builds on Lerner et al. (1997) who illustrated the positive relation between network size and firm performance.

Organizational Commitment. I administered an established 22-item scale which assessed an individual's commitment to his or her BNI group (Meyer & Allen, 1997). Consistent with extant research regarding the validity of this scale, the three factors of affective commitment (items 1-8, $\alpha = .83$), normative commitment (items 9-14, $\alpha = .82$), as well as continuance commitment (items 15-22, $\alpha = .78$) exhibited good internal reliabilities. Consistent with the theoretical framing of the present research, I reported all results using the affective scale only. Sample items from the affective commitment scale included: "I would be very happy to spend the rest of my time as a BNI member in this group," and "I really feel as if this BNI Group's problems are my own." Participants responded on a 7-point Likert type scale ranging from 1 (*strongly disagree*) to 7 (*strong agree*). Again, the 8-item affective commitment scale exhibited good reliability ($\alpha = .83$).

Performance (Business Transacted). In seeking performance outcomes, I generally chose “hard” outcomes as opposed to “soft” outcomes (e.g., Ramsden & Bennett, 2005). One question assessed business referrals received. Participants were asked: “How many members of this group passed you referrals which resulted in transacted business in the last twelve months?” I also asked the question, “How much business, in revenue, was generated by these referrals?” An additional dependent variable assessed what percentage of a person’s annual revenue came from BNI activity, i.e., “What percentage of your annual revenue came from BNI activity in the last 12 months?”

I also assessed the satisfaction with the member’s contribution to the group and receipts from the group, i.e., “How satisfied are you with your contributions to the group? How satisfied are you with your receipts from the group?” These two questions were assessed using 7-point Likert scales anchored by 1 (very unsatisfied) and 7 (very satisfied). I also collected data on turnover intentions, i.e., “I will be a member of this group in one year.” This question was assessed using a 7-point Likert scale anchored by 1 (strongly disagree) and 7 (strongly agree).

Demographic Variables. I gathered data on various demographic variables including age, sex, and the work history of the individual participants (e.g., hours worked per week). I did this in order to investigate if these demographic characteristics accounted for systematic variance across these data.

Control variables. I included control variables related to both the individual as well as the actual networking group. Control variables for the individuals included

entrepreneurial self-efficacy, social competence, tenure in the networking group and tenure at their company. These variables enabled me to hold constant differences in experience, ease of social interaction as well as time spent working and networking. Entrepreneurial self-efficacy was assessed using the Chen, Greene, and Crick (1998) 15-item scale ($\alpha = .94$). Social competence was assessed using the Baron and Markman (2004) 17-item scale ($\alpha = .84$). Tenure in networking group and at a member's company were assessed by asking how long each person had been a member of his or her current BNI group and owner of his or her company.

The control variables I included for the actual networking group included percentage of group members responding to the survey and total number of group members. I included these two control variables to account for differences in group size and group response rates (i.e., maybe better groups responded more completely, or maybe larger groups had a harder time responding). Percentage of group members responding to the survey was calculated by dividing the total number of respondents by the total number of active members.

Results Main Study

Analysis Plan

In the initial pilot study, the assumption of OLS models (i.e., Ordinary Least Squares models-- based on inferential statistics) that the data be independent was tested, and met (Halgin & DeJordy, 2008). However, because the Main Study used a different sample (i.e., different groups) and additional variables, I examined if the nesting of individuals within groups resulted in interdependence within these data. Specifically, I calculated the intraclass correlations (ICC) for relevant outcomes to assess the level of interdependence (i.e., did group membership account for unique variance in relevant outcomes?).

I calculated the intraclass correlations following the guidelines provided by Cohen, Cohen, West and Aiken (2003). In essence, the intraclass correlation (ICC) holds constant grouping effects using the following equation (Cohen et al., 2003, p. 538):

$$ICC = \frac{MS_{\text{treatment}} - MS_{\text{error}}}{MS_{\text{treatment}} + (\bar{n} - 1)MS_{\text{error}}}$$

Basically, this equation calculates a fixed effects one-factor nonrepeated measures analysis of variance (ANOVA) where the factor is the grouping variable and the levels

represent the particular groups (Cohen et al., 2003). The assumption of independence was violated for the outcome of number of group member passing referrals (see Table 3).

As a result of the interdependence in these data, and consistent with the best practices in the literature, I used a multi-level analysis framework (e.g., Bacharach, Bamberger, & Vashdi, 2005; Peugh & Enders, 2005; Singer, 1998). A multilevel analysis framework allows for the estimation of coefficients for the independent variables at the individual level while controlling for any possible variance accounted for due to the interdependent structure in the data. More specifically, using a multilevel framework allows for the examination of variables at the individual level while holding constant the effect, even if small, that group membership had on these data. Thus, the analyses of these data presented here report results which have had the variance accounted for by the variable of group membership partialled out-- all results are presented controlling for the effect of group membership.²

Though the only ICC which was significant was for the outcome variable assessing how many group member passed referrals, I chose to run all analyses in a multilevel framework-- this was the most conservative analysis approach and the one aligned with best practices noted above.

General Overview

² I used SAS PROC MIXED to run my analyses (SAS Institute, 2006). SAS PROC MIXED adjusts the coefficients for the independent variables by partialling the variance accounted for by group membership in the regression computations.

Means, standard deviations, and correlations for all variables are shown in Table 4. I examined these bivariate correlations and numerous significant relations are quite interesting-- and, some relations that were not significant are notable as well. For the demographic variables of sex, the significant relations with tenure (in company and in BNI group) as well as affective organizational commitment are interesting to consider. I explored these relations more thoroughly and found that the only variable on which males and females differed significantly was affective organizational commitment. Specifically, females reported higher levels of affective organizational commitment ($M = 5.90$, $SD = .95$) relative to males ($M = 5.60$, $SD = .95$). For the variable of age, it is interesting to note that age was significantly related to tenure (at company and in BNI group) as well as commitment, satisfaction with contribution to group (negatively) and how many group members passed referrals. Overall, though, none of the demographic variables exhibited consistent relations with any of the main variables, and thus do not appear to be of further use as additional control variables in hypothesis testing.

Additionally, I found the numerous significant relations between organizational commitment (i.e., affective, normative, continuance) and key outcome variables (i.e., referrals passed, percentage of annual revenue generated from BNI activity) interesting. Similarly, the relations between quantity of social ties as well as team-member exchange (i.e., all varieties) with relevant outcomes are very encouraging.

The fact that some variables exhibited few significant relations was unexpected. Specifically, for the variables of social competence and entrepreneurial self-efficacy, I

was surprised to find no significant relations with key outcome variables (i.e., referrals received, money received). Similarly, for the variable of diversity of social ties, I was surprised to find few significant relations. Regarding the variable of diversity of social ties, there were no significant relations with any of the main dependent variables examined. In the present research, I was primarily interested in quantity and quality of ties, rather than diversity. Thus, considering the lack of significant relations, for the analyses presented below, I report only on the quantity and quality of ties, not diversity.³

I mention one other note regarding social ties, in general. There were not differences in the significance of relations for any of the main dependent variables when I used either the 4 item social tie measure or the 5 item social tie measure. Thus, I report all analyses below using the 4 item measure of social ties.⁴

Results for Hypotheses 1 and 2

Hypothesis 1 proposed competing hypotheses related to whether social ties or team-member exchange contributions more strongly predicted number of group members

³ The relation between diversity of ties and the outcome of referrals passed (Hypothesis 1) was not significant ($\beta = .06$, $t(197) = .83$, $p = .41$). The relation between diversity of ties and the outcome of team-member exchange receipts (Hypothesis 2) was not significant ($\beta = -.02$, $t(200) = -.49$, $p = .62$). Additionally, analyzing the interaction in Hypothesis 3 using diversity of ties did not change the relation for the outcome of referrals passed ($\beta = .02$, $t(196) = .30$, $p = .77$) or team-member exchange receipts ($\beta = -.05$, $t(199) = -.83$, $p = .41$). Hypotheses 4 and 5 did not use any measure of ties. The mediation moderation, Hypothesis 6, using the diversity of ties measure was also not significant for both outcomes.

⁴ The relation between the 5 item measure of social ties and the outcome of referrals passed (Hypothesis 1) was still significant ($\beta = .24$, $t(303) = 4.03$, $p < .001$). The relation between the 5 item measure of social ties and the outcome of team-member exchange receipts (Hypothesis 2) was still not significant ($\beta = .04$, $t(307) = .98$, $p = .32$). Additionally, analyzing the interaction in Hypothesis 3 using the 5 item measure of social ties did not change the relation for the outcome of referrals passed ($\beta = .05$, $t(307) = .96$, $p = .34$) or team-member exchange receipts ($\beta = -.01$, $t(306) = -.25$, $p = .81$). Hypotheses 4 and 5 did not use any measure of ties. The mediation moderation, Hypothesis 6, using the 5 item measure of social ties was also not significant for both outcomes.

passing referrals. I used two methods to explore Hypothesis 1. Data from both supported Hypotheses 1a that social ties have a more positive relation with referrals passed than TMX contributions. I, first, conducted regression analyses in the SAS PROC Mixed platform (i.e., to control for the interdependence in the data). Second, I conducted a dominance analysis to explore the relative weights of the individual contributions of social ties and team-member exchange contributions to variance explained in the outcome of number of group members passing referrals (e.g., Budescu & Azen, 2004; Johnson & LeBreton, 2004). Results from the regression analyses are shown in Table 5. Social ties significantly predicted number of group members passing referrals ($\beta = .21$, $t(303) = 3.80$, $p < .001$). In this model, team-member exchange contributions did not account for additional variance explained in number of group members passing referrals ($\beta = .03$, $t(303) = .56$, $p = .58$). Table 6 illustrates the effects of social ties and TMX contributions with the controls variables included in the model. In Step 1, I included the control variables related to the BNI group as a whole as well as related to tenure (both in BNI and professionally at the member's own company). In Step 2, I added the individual-level characteristics of social competence as well as entrepreneurial self-efficacy. Then, in Step 3, I included social ties and team-member exchange contributions. Overall, results indicated that social ties accounted for unique variance for the outcome of number of group members passing referrals, but team-member exchange did not.

The dominance analysis (results shown in Table 7) offers additional support for Hypothesis 1a. Dominance analysis represents the average contribution that a variable

makes to the R^2 across all possible subset regressions (e.g., Budescu, 1993). Dominance analysis is specifically designed for use with correlated predictors, and researchers generally agree that the results are more intuitively meaningful because the estimates sum to the model R^2 and we can explore patterns of dominance (Budescu, 1993; Budescu & Azen, 2004). In Table 7, we see that social ties accounted for 93.40% of the variance whereas team-member exchange accounted for 6.60%. In summary, similar to the regression analyses, results from the dominance analysis supported Hypothesis 1a that social ties manifest a greater influence on referrals passed than team-member exchange contributions.

Hypothesis 2 examined competing hypotheses related to whether social ties or team-member exchange contributions more strongly predicted team-member exchange receipts. Data supported Hypothesis 2b that TMX contributions have a more positive relation with TMX receipts than social ties. Results from the regression analyses are shown in Table 8. Social ties did not significantly predict team-member exchange receipts ($\beta = .01$, $t(307) = .48$, $p = .63$). However, team-member exchange contributions did account for additional variance in TMX receipts ($\beta = .73$, $t(307) = 18.18$, $p < .001$). Table 9 illustrates the effects of social ties and TMX contributions with the control variables included in the model. Again, in Steps 1 and 2, I included control variables related to the BNI group overall, tenure, and then social competence and entrepreneurial self-efficacy. After controlling for numerous variables, team-member exchange

contributions accounted for additional variance explained on the outcome of team-member exchange receipts.

Results from a dominance analysis (shown in Table 10) also supported Hypothesis 2b. Social ties accounted for less than 1% of the variance whereas team-member exchange contributions accounted for over 99%. In summary, both regression analyses as well as dominance analysis support Hypothesis 2b that team-member exchange contributions represent a greater influence on team-member exchange receipts than do social ties.

Results for Hypothesis 3

Hypothesis 3 predicted that individuals who had more numerous social ties and higher TMX contributions would receive greater numbers of referrals received and report higher TMX receipts than individuals with low TMX contributions. I used the standard regression approach to explore interactions with continuous variables (Cohen et al., 2003) to examine this hypothesis that more numerous (versus less numerous) social ties are an especially robust predictor of number of people passing referrals for individuals higher in perceived TMX contributions (see Table 11). I first regressed referrals passed on social ties, TMX contributions and their interaction term. As illustrated in Table 11 [$\beta = .02$, $t(302) = .42$, $p = .68$], the social ties x TMX interaction effect did not reach significance. This analysis revealed a significant main effect for quantity of social ties on numbers of people passing referrals ($\beta = .21$, $t(302) = 3.66$, $p < .001$), but a non-significant main

effect for higher average TMX contribution ratings on numbers of people passing referrals ($\beta = .04$, $t(302) = .64$, $p = .52$).

Table 12 shows the results from a test of the interaction between social ties and TMX contributions on the outcome of team-member exchange receipts. Data revealed a non-significant interaction ($\beta = -.02$, $t(306) = -.54$, $p = .59$). This analysis, revealed a non-significant main effect for quantity of ties in a person's ego network on team-member exchange receipts ($\beta = .02$, $t(306) = .57$, $p = .58$), and a significant main effect for higher average TMX contribution ratings on TMX receipts ($\beta = .73$, $t(306) = 17.59$, $p < .001$).

Results for Hypothesis 4 and 5

Hypothesis 4, an exploratory hypothesis, predicted the direct effect of TMX receipts on number of group members passing referrals. In support of this prediction, results suggested that team-member exchange receipts significantly predicted referrals passed ($\beta = .15$, $t(306) = 2.91$, $p < .01$).

Similarly, I found support for the exploratory Hypothesis 5. Affective organizational commitment did significantly predict referrals passed ($\beta = .26$, $t(305) = 5.05$, $p < .001$) as well as team-member exchange receipts ($\beta = .47$, $t(310) = 9.72$, $p < .001$).

Results for Hypothesis 6

Hypothesis 6 predicted the mediating role of affective organizational commitment on the relation between the interaction of social ties and TMX contributions on the outcomes of referrals passed and TMX receipts. Specifically, I predicted that individuals

with more numerous social ties as well as higher perceptions of TMX contributions would report especially high levels of affective organizational commitment relative to individuals with lower numbers of social ties and lower ratings of TMX. Affective organizational commitment, in turn, was predicted to result in higher numbers of referrals received as well as higher TMX receipts. To test this hypotheses, I used the procedures recommended by Baron and Kenny (1986; also see Kenny, Kashy, & Bolger, 1998). First, I regressed the outcome of number of group members passing referrals on the two main effects of social ties and TMX contributions as well as the interaction term. Contrary to predictions, the data illustrated a non-significant effect ($\beta = .02$, $t(302) = .42$, $p = .68$). Generally, a lack of significance for the relation of the independent variable on the outcome is grounds for dismissing the mediated model.

Interestingly, though, I explored these data further by regressing affective organizational commitment onto the main effects of ties and TMX contributions and their interaction term (i.e., the second of four steps recommended by Baron & Kenny, 1986). As shown in Figure 6 [$\beta = -.12$, $t(306) = -2.28$, $p = .02$], the social ties x TMX contributions interaction effect reached significance. Tests of simple slopes conditioned one standard deviation above and below the means of social ties and TMX contributions (Aiken & West, 1991) revealed a significant association of TMX contributions with affective organizational commitment among individuals with fewer social ties ($p < .05$) and a non-significant relation ($p > .05$) for individuals with more numerous social ties. This analysis also revealed significant main effects for quantity of social ties on affective

organizational commitment ($\beta = .22$, $t(306) = 3.69$, $p < .001$, and a significant main effect for higher average TMX contributions on affective organizational commitment ($\beta = .27$, $t(306) = 4.92$, $p < .001$).

The results of this interaction are quite interesting and somewhat counter to expectations. Specifically, I expected that individuals with more numerous ties and higher TMX contributions would report higher affective organizational commitment relative to individuals with more numerous ties and lower TMX contributions. Figure 6 clearly shows that individuals with fewer ties and lower TMX contributions, relative to individuals with higher TMX contributions, have especially low affective organizational commitment. Though these findings are somewhat counter to predictions, they are very interesting. It is worthwhile to note that, for individuals with more numerous social ties, level of TMX contributions has less of an impact than for individuals with fewer social ties. It may be the case that if a person only has a few social ties that TMX contribution quality is especially important for levels of affective organizational commitment.

Overall though, despite the significance of the ties x TMX contribution interaction on affective organizational commitment, these data do not support the mediating role of affective organizational commitment on the relation between social ties x TMX contributions for the outcome of number of group members passing referrals.

To examine the mediating role of affective organizational commitment on the relation between social ties and TMX contributions and outcome of team-member exchange receipts, I followed the same procedures as in the analyses reported above. The

relation between the interaction of ties x TMX contributions on the outcome of team-member exchange receipts was not significant ($\beta = -.01$, $t(306) = -.54$, $p = .59$).

Post Hoc Analyses

Overall, for the a priori hypotheses regarding the interaction of social ties and TMX contributions as well as for the mediating mechanism of affective organizational commitment, data failed to support the primary mediated moderation hypothesis. However, the data suggest that social ties as well as team-member exchange contributions account for relevant variance in predicting effectiveness of small business owners in networking groups. Specifically, social ties predicted number of group members passing referrals and TMX contributions predicted TMX receipts even when relevant control variables were included in hierarchical regression models. Considering the initial data, I chose to explore the possibility that the two outcomes of number of group members passing referrals and receiving TMX receipts may not adequately capture the importance of social ties and TMX contributions within the context of networking groups. Thus, I examined other theoretically viable models-- I examined the outcome of percentage of annual revenue generated from BNI activity both as an outcome for the interaction of social ties and TMX contributions and also as an outcome in the mediated moderation model.

I conducted multiple analyses related to the outcome of percentage of annual revenue generated from BNI activity. First, to preliminarily examine the relations, I conducted a hierarchical regression as well as a dominance analysis of the predictors of

social ties and TMX contributions for the outcome of percentage of annual revenue generated from BNI activity. Second, I explored the interactive effects of ties and TMX contributions on percentage of annual revenue generated. Third, I considered the mediating role of affective organizational commitment on the relation between social ties, TMX contributions and the outcome of percentage of annual revenue generated. Overall, results do not support the meaningful role of the interaction of social ties and TMX contributions on the outcome of percentage of annual revenue generated from BNI activity. However, results do reveal other theoretically meaningful mediation models. I report the results of these analyses below.

Social ties as well as team-member exchange contributions showed significant univariate correlations with the outcome of percentage of annual revenue generated from BNI activity. However, when both were included in a regression equation, neither significantly predicted the outcome of percentage of annual revenue received (see Tables 13 and 14). Interestingly, results of a dominance analysis illustrated that social ties accounted for a larger percentage of the variance in percentage of annual revenue generated (see Table 15). Though the modest degree of association enjoyed by each is largely redundant, the results of the dominance analysis are nonetheless interesting.

Analysis of the interaction of social ties and TMX contributions on the outcome of percentage of annual revenue generated from BNI activity revealed a non-significant effect ($\beta = .04$, $t(230) = .58$, $p = .56$). The main effects of social ties ($\beta = .10$, $t(230) = 1.47$, $p = .14$) and TMX contributions ($\beta = .10$, $t(230) = 1.44$, $p = .15$) in the model where

the interaction term was included also were non-significant. Thus, testing for the mediating mechanism of affective organizational commitment, given that the relation between the interaction and the outcome is not significant, is not meaningful.

Because the variables of social ties and TMX contributions did not have an interactive effect, I examined if these constructs independently predicted relevant outcomes. Specifically, I re-tested Hypothesis 6 using not a mediated moderation model but simply a mediated model where affective organizational commitment mediates the relation between social ties, TMX contributions, and relevant outcomes (i.e., referrals passed, TMX receipts, percentage of annual revenue generated from BNI activity).

To examine these mediated models, I used the Baron and Kenny (1986) approach. I examined the predictor of social ties on the three main outcomes of referrals passed, TMX receipts and percentage of revenue. The first mediated model tested included social ties, affective organizational commitment and the outcome of referrals passed (see Figure 7). In the first step of the mediation model, social ties significantly predicted referrals passed ($\beta = .22$, $t(277) = 3.98$, $p < .001$). The second step suggests that the independent variable (i.e., social ties) significantly predicted the mediator, affective organizational commitment, ($\beta = .20$, $t(281) = 3.64$, $p < .001$). Additionally, in step three of the mediation model, affective organizational commitment predicted referrals passed ($\beta = .18$, $t(276) = 3.14$, $p < .01$) with social ties as well as all relevant control variables in the model. When the variance of affective organizational commitment was partialled, the relation between social ties and referrals passed significantly decreased but remained

significant. Thus, results support a partial mediation. To examine the significance of the direct effect decrease, in step 4, Baron and Kenny (1986) suggest using the Sobel (1982) test. This test revealed evidence consistent with the inference that affective organizational commitment partially mediated the association of social ties and number of group members passing referrals (see Figure 7, $z = 2.33$, $p < .05$).

For the second mediated model examining the outcome of team-member exchange receipts, I found similar results as for the outcome referrals passed (see Figure 8). For the first step of the mediation model, social ties significantly predicted TMX receipts ($\beta = .22$, $t(281) = 3.86$, $p < .001$). For step two, as reported above, social ties significantly predicted affective organizational commitment. In the third step, affective organization commitment significantly predicted TMX receipts even when social ties and all control variables were included in the model ($\beta = .41$, $t(280) = 7.66$, $p < .001$). When the variance of affective organizational commitment was partialled, the relation between social ties and TMX receipts significantly decreased but remained significant. A Sobel (1982) test revealed evidence consistent with the inference that affective organizational commitment partially mediated the association of social ties and TMX receipts (see Figure 8, Sobel test $z = 2.98$, $p < .01$).

For the mediated model focusing on the outcome of percentage of annual revenue generated from BNI activity, data supported a fully mediated model in which affective commitment mediates the relation between ties and the outcome (see Figure 9). For step one, social ties significantly predicted percentage of annual revenue generated from BNI

activity ($\beta = .15$, $t(223) = 2.22$, $p < .05$). In step two, again as reported above, social ties predicted affective organizational commitment. In the third step, affective organizational commitment significantly predicted percentage of annual revenue even when social ties were included in the model and all control variables were in the model ($\beta = .18$, $t(222) = 2.60$, $p < .01$). When the variance of affective organizational commitment was partialled, the relation between social ties and percentage of annual revenue significantly decreased and became non-significant. A Sobel (1982) test revealed evidence consistent with the inference that affective organizational commitment fully mediated the association of social ties and percentage of annual revenue generated from BNI activity (see Figure 9, Sobel test $z = 2.04$, $p < .05$).

I also examined mediated models using the predictor of team-member exchange contributions with the Baron and Kenny (1986) approach. I tested the predictor of TMX contributions on the three primary outcomes of referrals passed, TMX receipts and percentage of annual revenue generated from BNI activity. The mediated model between TMX contributions and referrals passed is shown in Figure 10. Following the Baron and Kenny (1986) steps, team-member exchange contributions significantly predicted referrals passed ($\beta = .12$, $t(277) = 2.06$, $p < .05$). Team-member exchange contributions also significantly predicted affective organizational commitment ($\beta = .33$, $t(282) = 5.85$, $p < .001$). Affective organizational commitment predicted referrals passed ($\beta = .20$, $t(276) = 3.37$, $p < .001$) when the relation between TMX contributions and all control variables were included in the model. When the variance of affective organizational

commitment was partialled, the relation between TMX contributions and referrals passed decreased and became non-significant. A Sobel (1982) test revealed evidence consistent with the inference that affective organizational commitment fully mediated the association of TMX contributions and referrals passed (see Figure 10, Sobel test $z = 2.85$, $p < .01$).

For the outcome of team-member exchange receipts, I found similar results (see Figure 11). Team-member exchange contributions significantly predicted TMX receipts ($\beta = .76$, $t(282) = 18.75$, $p < .001$). Team-member exchange contributions also significantly predicted affective organizational commitment as shown above. And, affective organizational commitment did predict TMX receipts with control variables included in the model ($\beta = .22$, $t() = 9.72$, $p < .001$). When the variance of affective organizational commitment was partialled, the relation between TMX contributions and TMX receipts decreased yet still was significant. A Sobel (1982) test revealed evidence consistent with the inference that affective organizational commitment partially mediated the association of TMX contributions and TMX receipts (Sobel test $z = 3.89$, $p < .001$).

For the outcome of percentage of annual revenue generated from BNI activity, affective organizational communication fully mediated the relation between TMX contributions and the outcome when affective organization commitment was included (see Figure 12). Team-member exchange contributions significantly predicted percentage of annual revenue generated from BNI activity ($\beta = .15$, $t(224) = 2.17$, $p < .05$). Team-member exchange contributions also significantly predicted affective organizational

commitment ($\beta = .33$, $t(282) = 5.85$, $p < .001$). Affective organizational commitment predicted percentage of annual revenue generated from BNI activity ($\beta = .18$, $t(223) = 2.41$, $p < .05$) when the relation between TMX contributions and control variables were included in the model. When the variance of affective organizational commitment was partialled, the relation between TMX contributions and referrals passed decreased and became non-significant. A Sobel (1982) test revealed evidence consistent with the inference that affective organizational commitment fully mediated the association of TMX contributions and percentage of annual revenue generated from BNI activity (see Figure 12, Sobel test $z = 2.33$, $p < .05$).

Discussion

The present data suggest that social ties and team-member exchange contributions are related to the performance outcomes for small business owners in networking groups. Hypothesis 1 tested whether social ties or TMX contributions had a more positive relation with the outcome of number of group members passing referrals-- data illustrated that social ties had a more positive relation than TMX contributions. Hypothesis 2 tested whether social ties or TMX contributions had a more positive relation with the outcome of TMX receipts-- data illustrated that TMX contributions had a more positive relation than social ties. The data did not support Hypothesis 3, the interaction of social ties and TMX contributions on relevant outcomes. However, Hypothesis 4 was supported and data showed the significant relation between team-member exchange receipts and referrals passed. Also, Hypothesis 5 was supported-- affective organizational commitment significantly predicted referrals passed as well as team-member exchange receipts. The data did not support Hypothesis 6, the mediating role of affective organizational commitment on the relation between the interaction of social ties and TMX contributions on performance outcomes.

In summary, I found mixed support for the predicted hypotheses. However, I further explored the data including an additional dependent variable as well as examining the independent effects of social ties and TMX contributions on the relevant outcomes. Overall, the data support the mediating role of affective organizational commitment on

the relation between social ties and performance outcomes (i.e., number of group members passing referrals, TMX receipts, percentage of annual revenue generated from BNI activity). Furthermore, the data support the mediating role of affective organizational commitment on the relation between TMX contributions and these same outcomes. Thus, although a priori theories regarding the interactive effects of social ties and TMX contributions on performance outcomes were not supported, the present research does provide important empirical insights and lays the groundwork for future research.

These findings offer ample grounds for future theoretical and empirical inquiries. In the current paper, I applied a new approach to the study of networking groups-- a social network perspective and TMX. To my knowledge, the current study is the first to suggest combining these approaches to examine what factors can improve networking performance. The present research brings back the discussion of quality of social ties into the literature-- a topic which has been conspicuously absent since Mitchell (1969). As the outlets for networking activity (e.g., networking groups, Facebook, MySpace) increase in number, the assessment of the quality of ties that these interactions foster is of central importance. The use of team-member exchange quality to evaluate the level of reciprocity gained from networking interactions is, potentially, a valuable theoretical and practically useful addition to the literature.

Furthermore, regarding the use of team-member exchange quality, the present work builds on the theory and research offered by Seers and colleagues and extends TMX

to a new domain (e.g., Ford & Seers, 2006; Seers, 1989; Seers et al., 2001). As opposed to using a traditional corporate or academic setting where members of a group interact daily to achieve a collaborative goal of some sort, the present research assessed TMX quality among members of a group who interact less frequently. Aside from weekly meetings and limited interactions, these networking group members see each other much less frequently than the traditional groups in which TMX has been assessed. Additionally, in traditional groups where TMX has been assessed, it is the case that some degree of relational interaction as well as instrumental focus is often needed. However, within these BNI groups (i.e., the present sample), there really is only an overall instrumental focus of earning more money (i.e., receiving and passing referrals to fellow members). This extension of TMX to a new domain may offer important insights, both theoretically and practically that future research can extend.

One additional aspect of the present research which has the potential to extend current theory is related to the use of affective organizational commitment. In the present research, one of my goals was to answer the questions of whether social ties and TMX were related to networking performance. Additionally, one of my goals was to examine the mechanism by which this process unfolds-- specifically, I wanted to examine why ties and TMX may influence performance outcomes. The answer to that question may be affective organizational commitment. The present findings regarding the affective undercurrents related to TMX and social ties build on the work of Tse et al. (2008) and Tse & Dasborough (2008). Future theory building and empirical research on the topics of

social ties, TMX, and especially networking performance may find benefit from the present results related to the importance of affective organizational commitment as a mediating mechanism. In short, building on the findings from the present research, continuing to study networking groups through a proactive perspective which accounts for the quantity and quality of social ties, as well as affective organizational commitment, may offer important practical and theoretical implications for entrepreneurs.

In the following sections, I identify specific theoretically-focused areas for future research, as well as note specific limitations regarding the predictors of social ties, TMX as well as organizational commitment. For the predictor of social ties, I used the entrepreneur's ego network as the independent variable to operationalize social ties. Future research would be well-served to explore how group density and multiple assessments of centrality (e.g., degree, closeness, betweenness) affect networking relationships within groups (e.g., Burt, 1992; Ibarra, 1993). The present data, also, provide support for the conclusion that quantity of ties should be assessed in conjunction with quality-oriented measures.

For TMX, based on theoretical and empirical foundations (i.e., Ford & Seers, 2006; Seers et al., 2001), the present research separated TMX into TMX contributions and TMX receipts. Extant data, however, illustrate the importance of TMX as one full scale and future research would be well-advised to explore the relation between this full scale in addition to TMX contributions and TMX receipts. Additionally, along these lines, more work needs to be done regarding the validation of the TMX scale.

Specifically, within the present research exploratory factor analysis as well as confirmatory factor analysis found initial evidence that a three factor model of TMX (i.e., TMX help, TMX support, TMX communication) may be indicated. I found that TMX items 1-4 loaded on a dimension related to “helping behaviors,” items 5-8 loaded on a dimension related to “supporting behaviors,” and items 11 and 12 loaded on a dimension related to “communication behaviors.” From a theoretical perspective, this three-factor framework may hold important insights and future research may find both practical value and theoretical insights by exploring this construct further. As noted earlier, the unique nature of the present sample makes these findings of particular interest.

Specifically, regarding TMX, in assessing the usefulness of teams accomplishing tasks, it is essential to ask: “What is the nature of the work being done?” The nature of the tasks relevant to networking group members, in the present sample, were substantially different than those encountered by traditional work group members or by academic class-situated participants. Thus, it is not surprising that, in the present research, a three-factor model emerged which highlighted the degree to which members help, support and communicate with each other. These dimensions are the functional tasks networking group members perform. Along these lines, future research would be well-served to examine the factor structure of TMX in additional settings. And, within a networking setting, specifically, seeking additional measures of social tie quality other than TMX may enrich the literature and highlight important theoretical and practical insights.

From an organizational commitment perspective, the present research focused on affective commitment. As illustrated in Table 4, however, significant relations existed between important performance-related outcomes and normative and continuance commitment. Extant data highlights the importance of affective organizational commitment, and from a theoretical and empirical perspective, the present research provides support for the relation between affective commitment and important outcomes. However, future research would be useful to the extent that it explores the relations between normative as well as continuance commitment in the domain of performance outcomes for networking activity.

Additionally, another area where future work could build on the present research regarding affective organizational commitment is the ability to draw causal conclusions. Specifically, future research would benefit from further examination of the relation between networking performance and affective organizational commitment. The present research proposed that more numerous social ties and higher TMX perceptions may increase feelings of affective organizational commitment. Then, in turn, this affective commitment was predicted to relate to performance outcomes (i.e., referrals passed, percentage of annual revenue generated). However, one important question that should be examined is: “Does affective commitment cause increased performance, or does increased performance cause affective commitment?” For instance, imagine a networking group member-- let’s call her Amy. Amy joins a networking group and immediately gets numerous referrals to potential clients which earn her thousands of dollars in new

business. In that example, as a result of performance increases, Amy may have higher affective commitment. Future research should examine the causal direction of the affective commitment to performance relation-- it is certainly the case that increased performance could cause commitment.

I highlight one additional area for future research. A growing body of literature highlights the importance of both a social capital (i.e., the immediate and future resources an individual gains from his or her interactions with other people) as well as a social competence perspective (i.e., a person's overall effectiveness in interacting with other people) (Baron & Markman, 2004; Nahapiet & Ghoshal, 1998; Spence, Donovan, & Brechman-Toussaint, 1999). In the present research, I found few significant relations between social competence and key outcomes. However, in future research, examining the role of social capital, in addition to social competence, may be particularly relevant to the idea of how entrepreneurs network and market themselves in order to gain access to new business.

In addition to highlighting these theoretically-based areas for future inquiry, I note some limitations of the present research. This sample has limited diversity as only small business owners in networking groups in the United States were sampled. Future research should examine potential cultural differences and personality differences (Lee & Tsang, 2001; Ramachandran & Ramnarayan, 1993) in the influence of social ties and TMX across cultures and countries. For example, differences among countries have been found regarding activities of entrepreneurs, social networks, goals and perceptions (e.g., Greve

& Salaff, 2003; Park & Luo, 2001; Peng, 2004) and future research on social ties and TMX should continue to explore these differences.

Additionally, a limitation of the present research is that I was not able to assess causality between social ties, TMX, commitment and performance. Future research would be well-advised to implement experimental and/or longitudinal studies. Similarly, I did not assess changes over time in the networking groups. Building on research related to the temporal aspects of these relations (e.g., Jack, Dodd, & Anderson, 2008), future research could prove useful in this domain.

One final limitation of the present research is that of common method variance (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Results from the present research could be bolstered by replications employing different methodologies, especially those that could help to solidify causal conclusions and further eliminate common method variance (see Podsakoff et al., 2003). For example, the present research captured data on both the independent variables as well as the dependent variables using self-report data from one time period. Suggestions for future research include gathering data from both the individual group members and BNI administrative staff (i.e., using multi-source data) as well as assessing predictors and outcomes at two separate time periods (i.e., temporally separating data collection from predictors and outcomes).

The present research does, however, open the door for potentially fruitful avenues for future practical inquiry about networking groups and teams. For example, building on the initial line of work offered in the current paper, the implications can be

examined in different types of teams. Perhaps the influence of social networking and TMX would be useful to assess within the context of venture capitalist teams working to seek out and evaluate investment opportunities. Or, perhaps, within the domain of corporate entrepreneurship, a social network perspective or TMX could illustrate important outcomes (e.g., satisfaction, performance, entrepreneurial orientation) within the corporate environment.

An additional practical area for productive research includes assessing responses to challenges and setbacks. For example, if the social ties and TMX contributions within a group are related to commitment and performance, perhaps those entities would be more likely to remain strong during, and after experiencing, challenges or setbacks. Thus, it would be interesting, given the precarious nature of new ventures in the first years of business, to examine if teams with more numerous social ties and higher TMX (both contributions and receipts) remain intact longer and have a better chance of success following business-related difficulties.

Overall, from a practical perspective, the present research offers insight into how to enable members in networking groups to be more successful. Networking groups' members who recognize the importance of this research have the potential opportunity to structure their time accordingly-- increase their within-group activity, and potentially increase referrals received and revenue generated. Of particular interest is the exploration of the mediating mechanism of affective organizational commitment. Networking group members with more numerous social ties as well as higher ratings of TMX seemed to

have higher ratings of affective commitment. This, in turn, predicted performance. Future research along these lines may prove valuable.

As economists note, time is the most scarce economic resource and how an entrepreneur allocates his or her time can have an impact on financial success (Uzzi, 1997). If it is the case that affective commitment to the groups is the mechanism by which networking success can be achieved, this may be an important practical finding. Specifically, to the extent that entrepreneurs in a group can foster more numerous and more positive exchange relationships, it would seem that networking processes can be influenced to be more effective and useful. An individual member of a networking group could take actions such as supporting fellow members when they are busy, recognizing the contributions of fellow members, as well as being open about what expectations exist for members. Through these actions, and others, an individual member may positively influence the team-member exchange relationships within a group. The actions may be a worthwhile use of time, for members seeking to increase productivity, as TMX is related to the number of referrals an individual receives as well as the level of reciprocity gained in terms of help, support and communication.

In summary, the present research offers a new approach to the study of networking groups-- a social network perspective and TMX viewed through the lens of affective organizational commitment. To my knowledge, the current study is the first to suggest combining these approaches to examine what factors can improve the

performance of members in networking groups and I hope that this work provides ample materials for future theoretical and practical explorations.

References

- Agnew, C. R., Van Lange, P. A. M, Rusbult, C. E, & Langston, C. A. (1998). Cognitive interdependence: Commitment and the mental representation of close relationships. *Journal of Personality and Social Psychology*, 74(4), 939-954.
- Aiken, L. S., & West, S. G. (1991). Multiple regression: Testing and interpreting interaction. London: Sage Publications.
- Aldrich, H. (1999). *Organizations evolving*. London: Sage.
- Aldrich, H. E., & Reese, P. R. (1993). Does networking pay off? In Churchill, N.C., Birley, S., Doutriaux, J., et al. (Eds.), A panel study of entrepreneurs in the research triangle in *Frontiers of Entrepreneurship Research*, Massachusetts, Wellesley, pp. 325–339.
- Aldrich, H., & Zimmer, C. (1986). Entrepreneurship through social networks. In Sexton, D., & Smilor, R. (Eds.). *The art and science of entrepreneurship* (pp. 3-23), Cambridge, MA: Ballinger Publishing.
- Alge, B. J., Wiethoff, C., & Klein, H. J. (2003). When does the medium matter? Knowledge-building experiences and opportunities in decision-making teams. *Organizational Behavior and Human Decision Processes*, 91, 26-37.
- Bacharach, S. B., Bamberger, P.A., & Vashdi, D. (2005). Diversity and homophily at work: Supportive relations among white and African-American peers. *Academy of Management Journal*, 40, 619-644.
- Barabási, A. (2002). *Linked: The new science of networks*. Cambridge, MA. Perseus.
- Baron, R. A. (2000). Psychological perspectives on entrepreneurship: cognitive and social factors in entrepreneurs' success. *Curr. Dir. Psychol. Sci.* 6, 15–18.
- Baron, R.A., & Markman, G. D. (2000). Beyond social capital: the role of social skills in entrepreneurs' success. *Academy of Management Executive*, 14, 1–15.
- Baron, R. A., & Markman, G. D. (2004). Beyond social capital: the role of entrepreneurs' social competence in their financial success. *Journal of Business Venturing*, 18, 41-60.

- Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51, 1173–1182.
- Barnes, J. (1954). Class and committees in a Norwegian island parish. *Human Relations*, 7, 39-58.
- Baugh, S. G., & Graen, G. B. (1997). Effects of team gender and racial composition on perceptions of team performance in cross-functional teams. *Group & Organization Management*, 22, 366-383.
- Begley, T. M., & Boyd, D. P. (1987). Psychological characteristics associated with performance in entrepreneurial firms and smaller businesses. *Journal of Business Venturing*, 2(1), 79-93.
- Borgatti, S. P. (2008, May). *Ego networks*. Center for the Advancement of Research Methods and Analysis (CARMA) Short Course entitled Social Network Analysis, S. Borgatti Instructor, Richmond. VA.
- Borgatti, S. P., Everett, M., & Freeman, L. (2004). *UCINET VI software for social network analysis*. Natick, MA: Analytic Technologies.
- Borgatti, S. P., & Foster, P. (2003). The network paradigm in organizational research: A review and typology. *Journal of Management*, 29(6), 991-1013.
- Bott, E. (1956). Urban families: The norms of conjugal roles. *Human Relations*, 9.
- Bouwen, R., & Steyaert, C. (1990). Construing organizational texture in young entrepreneurial firms. *The Journal of Management Studies*, 27(6), 637.
- Bozionelos, N. (2008). Intra-organizational network resources: How they relate to career success and organizational commitment. *Personnel Review*, 37(3), 249-263.
- Brass, D. J. (1995). A social network perspective on human resources management. In Ferris, G. R., (Ed.), *Research in Personnel and Human Resources Management* (pp. 39-79), Greenwich: JAI Press.
- Brass, D. J., Galaskiewicz, J., Greve, H. R., & Tsai, W. (2004). Taking stock of networks and organizations: A multilevel perspective. *Academy of Management Journal*, 47, 795-817.
- Brush, C. G., Greene, P. G., & Hart, M. M. (2001). From initial idea to unique advantage: The entrepreneurial challenge of constructing a resource base. *Academy of*

- Management Executive*, 15(1), 64–78.
- Burnette, J. L., & Williams, L. J. (2006). Structural equation modeling (SEM): An introduction to basic techniques and advanced issues. In R. Swanson & E. Holton (Eds.), *Research in Organizations Foundations and Methods of Inquiry*.
- Burt, R.S. (1992). *Structural holes: The social structure of competition*. Cambridge, MA: Harvard University Press.
- Carroll, G. R., & Teo, A. C. (1996). On the social networks of managers. *Academy of Management Journal*, 39(2), 421-440.
- Casson, M. (1982). *The entrepreneur*. Totowa, NJ: Barnes and Noble Books.
- Chen, C.C., Greene, P.G., & Crick, A. (1998). Does entrepreneurial self-efficacy distinguish entrepreneurs from managers? *Journal of Business Venturing*, 13, 295-316.
- Clarysse, B., & Moray, N. (2004). A process study of entrepreneurial team formation: The case of a research-based spinoff. *Journal of Business Venturing*, 19(1), 55–76.
- Cohen, J., Cohen, P., West, S. G., & Aiken, L. S. (2003). *Applied multiple regression/correlation analysis for the behavioral sciences* (3rd Ed.). Mahwah, NJ: Lawrence Erlbaum.
- Cole, M. S., Schaninger, W.S., & Harris, S. G. (2002). The workplace social exchange network: A multilevel, conceptual examination. *Group & Organization Management*, 27(1), 142-167.
- Colombo, M. G., & Grilli, L. (2005). Founders' human capital and the growth of new technology-based firms: A competence-based view. *Research Policy*, 34(6), 795–818.
- Conway, J. M., & Huffcutt, A. I. (2003). A review and evaluation of exploratory factor analysis practices in organizational research. *Organizational Research Methods*, 6, 147-168.
- Cooper, A. C., Gimeno-Gascon, J. F., & Woo, C. (1994). Initial human and financial capital as predictors of new venture performance. *Journal of Business Venturing*, 9(5), 371–395.
- Coviello, N. E. (2005). Integrating qualitative and quantitative techniques in network analysis. *Qualitative Market Research*, 8(1), 39-60.

- Cropanzano, R., & Mitchell, M. S. (2005). Social exchange theory: An interdisciplinary review. *Journal of Management*, 31(6), 874-900.
- Cross, R., Liedtka, J., & Weiss, L. (2005). A practical guide to social networks. *Harvard Business Review*, 83(3), 124-132.
- Cyr, L., Johnson, D. E., & Wellbourne, T. M. (2000). Human resources in initial public offering firms: Do venture capitalists make a difference? *Entrepreneurship Theory and Practice*, 25(1), 77-91.
- Dansereau, F., Graen, G. B., & Haga, W. J. (1975). A vertical dyad linkage approach to leadership within formal organizations: A longitudinal investigation of the role making process. *Organizational Behavior and Human Performance*, 13, 46-78.
- Davis, J. L., & Rusbult, C. E. (2001). Attitude alignment in close relationships. *Journal of Personality & Social Psychology*, 81(1), 65-84.
- Degenne, A., & Forse, M. (1999). *Introducing social networks*. Thousand Oaks, CA: Sage Publications.
- Dose, J. J. (1999). The relationship between work values similarity and team-member and leader-member exchange relationships. *Group Dynamics: Theory, Research, and Practice*, 3, 20-32.
- Drigotas, S. M., & Rusbult, C. E. (1992). Should I stay or should I go? A dependence model of breakups. *Journal of Personality and Social Psychology*, 62(1), 62.
- Drigotas, S. M., Rusbult, C. E., & Verette, J. (1999). Level of commitment, mutuality of commitment, and couple well-being. *Personal Relationships*, 6(3), 389-409.
- Dubini, P., & Aldrich, H. (1991). Personal and extended networks are central to the entrepreneurial process. *Journal of Business Venturing*, 6(5), 305.
- Duchesneau, D. A., & Gartner, W. B. (1990). A profile of new venture success and failure in an emerging industry. *Journal of Business Venturing*, 5(5), 297-312.
- Eisenhardt, K., & Schoonhoven, K. (1990). Organizational growth: Linking founding team, strategy, environment and growth among US semiconductor ventures, 1978-1988. *Administrative Science Quarterly*, 35, 504-529.
- Eby, L. T., & Dobbins, G. H. (1997). Collectivistic orientation in teams: an individual and group-level analysis. *Journal of Organizational Behavior*, 18, 275-295.

- Fabrigar, L. R., Wegener, D. R., MacCallum, R. C., & Strahan, E. J. (1999). Evaluating the use of exploratory factor analysis in psychological research. *Psychological Methods*, 4, 272-299.
- Farrell, D., & Rusbult, C. E. (1981). Exchange variables as predictors of job satisfaction, job commitment, and turnover: The impact of rewards, costs, alternatives, and investments. *Organizational Behavior and Human Performance*, 28(1), 78.
- Finkel, E. J., Rusbult, C. E., Kumashiro, M., & Hannon, P. A. (2002). Dealing with betrayal in close relationships: Does commitment promote forgiveness? *Journal of Personality & Social Psychology*, 82(6), 956-974.
- Fombrun, C. J. (1982). Strategies for network research in organizations. *Academy of Management Review*, 7, 280-291.
- Forsyth, D. R. (2005). *Group dynamics* (4th Ed.). Boston, MA: Thompson/Wadsworth Publishing.
- Ford, J. K., MacCallum, R. C., & Tait, M. (1986). The application of exploratory factor analysis in applied psychology. A critical review and analysis. *Personnel Psychology*, 29, 291-314.
- Ford, L. R., & Seers, A. (2006). Relational leadership and team climates: Pitting differentiation versus agreement. *The Leadership Quarterly*, 17, 258-270.
- Freeman, L. C. (1979) Centrality in social networks: Conceptual clarification. *Social Networks*, 1, 215-239.
- Gartner, W. B., Shaver, K. G., Gatewood, E., & Katz, J. A. (1994). Finding the entrepreneur in entrepreneurship. *Entrepreneurship Theory and Practice*, 18(3), 5-9.
- Gilmore, A., & Carson, D. (1999). Entrepreneurial marketing by networking. *New England Journal of Entrepreneurship*, 2(2), 31.
- Golden, T. D. (2006). The role of relationships in understanding telecommuter satisfaction. *Journal of Organizational Behavior*, 27, 319-340.
- Goldspink, C., & Kay, R. (2004). Bridging the micro-macro divide: A new basis of the social science. *Human Relations*, 57(5), 597-618.
- Gorsuch, R. L. (1997). Exploratory factor analysis: Its role in item analysis. *Journal of Personality Assessments*, 68, 532-560.

- Graen, G. B., & Cashman, J. (1975). A role-making model of leadership in formal organizations: A development approach. In J. G. Hunt, & L. L. Larson (Eds.), *Leadership frontiers* (pp. 143-165). Kent, OH: Kent State University.
- Graen, G., & Scandura, T.A. (1987). Toward a psychology of dyadic organizing. *Research in Organizational Behavior*, 9, 175-208.
- Grandi, A., & Grimaldi, R. (2003). Exploring the networking characteristics of new venture founding teams. *Small Business Economics*, 21(4), 329-347.
- Granovetter, M. (1973). The strength of weak ties. *American Journal of Sociology*, 78.
- Granovetter, M. (1974). *Getting a job*. Cambridge, MA: Harvard University Press.
- Greve, A., & Salaff, J. W. (2003). Social network approach to understand the ethnic economy: A theoretical discourse. *GeoJournal*, 64(1), 7-16.
- Guzzo, R. A., & Dickson, M. W. (1996). Teams in organizations: Recent research on performance and effectiveness. *Annual Review of Psychology*, 47, 307-338.
- Hackett, R. D., Bycio, P., & Hausdorf, P. A. (1994). Further assessments of Meyer and Allen's three component model of organizational commitment. *Journal of Applied Psychology*, 79(1), 15-23.
- Halgin, D. S., & DeJordy, R. (2008, August). *Introduction to ego network analysis*. Professional Development Workshop (PDW) Presented at the Annual Meetings of the Academy of Management, Anaheim, CA.
- Hawawini, G., Subramanian, V., & Verdin, P. (2003). Is performance driven by industry- or firm-specific factors? A new look at the evidence. *Strategic Management Journal*, 24, 1-16.
- Hayton, J.C., & Zahra, S.A. (2005). Venture team human capital and absorptive capacity in high technology new ventures. *International Journal of Technology Management*, 31(3), 256-277.
- Headd, B. (2003). Redefining business success: Distinguishing between closure and failure. *Small Business Economics*, 21(1), 51-61.
- Heider, F. (1958). *The psychology of interpersonal relations*. New York: Wiley.
- Homans, G. C. (1951). *The human group*. London: Routledge and Kegan Press.

- House, R., Rousseau, D. M., & Thomas-Hunt, M. (1995). The meso paradigm: A framework for the integration of micro and macro organizational behavior. *Research in Organizational Behavior*, 17, 74-114.
- Hustedde, R. J., & Pulver, G. C. (1992). Factors affecting equity capital acquisition: The demand side. *Journal of Business Venturing*, 7(5), 363-374.
- Iacobucci, D. (Ed.) (1996). *Introduction* (p. vii-xx). Networks in marketing. Thousand Oaks: Sage Publishing.
- Ibarra, H. (1993). Network centrality, power, and innovation involvement: Determinants of technical and administrative roles. *Academy of Management Journal*, 36, 471-501.
- Jack, S. L., Dodd, S. D., & Anderson, A. R. (2008). Change and the development of entrepreneurial networks over time: a processual perspective. *Entrepreneurship and Regional Development*, 20(2), 125.
- Johansson, E. (2000). Self-employment and liquidity constraints: Evidence from Finland. *Scandinavian Journal of Economics*, 102(1), 123-134.
- Johnson, J. W., & LeBreton, J. M. (2004). History and use of relative importance indices in organizational research. *Organizational Research Methods*, 7, 238-257.
- Jordan, M. H., Feild, H. S., & Armenakis, A. A. (2002). The relationship of group process variables and team performance: A team-level analysis in a field setting. *Small Group Research*, 33, 121-150.
- Joreskog, K.G., & Sorbom, D. (1993). *LISREL 8: User's reference guide* [Computer software manual]. Chicago: Scientific Software International.
- Kamdar, D., & Van Dyne, L. (2007). The joint effects of personality and workplace social exchange relationships in predicting task performance and citizenship performance. *Journal of Applied Psychology*, 92(5), 1286-1298.
- Katz, F. (1966). Social participation and social structure. *Social Forces*, 45.
- Kelley, H. H., & Thibault, J. (1978) *Interpersonal relations: A theory of interdependence*, New York: Wiley.
- Kenny, D. A., Kashy, D. A., & Bolger, N. (1998). Data analysis in social psychology. In D. T. Gilbert, S. T. Fiske, & G. Lindzey, (Eds.). *Handbook of social psychology* (4th ed., pp. 233–265). New York: Oxford University Press.

- Kilpatrick, S. D., Bissonnette, V. L. & Rusbult, C. E. (2002). Empathic accuracy and accommodative behavior among newly married couples. *Personal Relationships*, 9(4), 369-393.
- Klepper, S. (2001). Employee start-ups in high industries. *Industrial and Corporate Change*, 10(3), 639-674.
- Knaup, A. E. (2005). Survival and longevity in the business employment dynamics database. *Monthly Labor Review*, 128(5), 50-56.
- Knoke, D., & Yang, S. (2008). *Social network analysis* (2nd Ed.). Los Angeles, CA: Sage Publications.
- Kozlowski, S. W. J., & Klein, K. J. 2000. A multilevel approach to theory and research in organizations: Contextual, temporal, and emergent processes. In Klein, K. J., & Kozlowski, S. W. J. (Eds.), *Multilevel theory, research, and methods in organizations: Foundations, extensions, and new directions*, (pp. 3-90). San Francisco, CA: Jossey-Bass.
- Krackhardt, D. (1987). Cognitive social structures. *Social Networks*, 9, 109-134.
- Krackhardt, D. (1996). Social networks and the liability of newness for managers. *Journal of Organizational Behavior*, 159-173.
- Kumashiro, M., Rusbult, C. E., & Finkel, E. J. (2008). Navigating personal and relational concerns: The quest for equilibrium. *Journal of Personality & Social Psychology*, 95(1), 94-110.
- Larson, A. & Starr, J. (1993). A network model of organization formation. *Entrepreneurship Theory and Practice*, 17(2), 5.
- Lee, D. Y., & Tsang, E. W. K. (2001). The effects of entrepreneurial personality, background and network activities on venture growth. *The Journal of Management Studies*, 38(4), 583-602.
- Lee, N. H. (1969). *The search for an abortionist*. Chicago, IL: University of Chicago Press.
- Lerner, M., Brush, C., & Hisrich, R. (1997). Israeli women entrepreneurs: an examination of factors affecting performance. *Journal of Business Venturing*, 12(4), 315-339.
- Liden, R. C., Wayne, S. J., & Sparrowe, R. T. (2000). An examination of the mediating role of psychological empowerment on the relations between the job,

- interpersonal relations, and work outcomes. *Journal of Applied Psychology*, 85, 407-416.
- Lumpkin, G. T., & Dess, G. G. (1996). Clarifying the entrepreneurial orientation construct and linking it to performance. *Academy of Management Review*, 21(1), 135-172.
- Mackinnon, D., Chapman, K., & Cumbers, A. (2004). Networking, trust and embeddedness amongst SMEs in the Aberdeen oil complex. *Entrepreneurship and Regional Development*, 16(2), 87-106.
- Malecki, E. J., & Tootle, D. M. (1996). The role of networks in small firm competitiveness. *International Journal of Technology Management*, 11(1,2), 43.
- Malewicki, D. S. (2005). Member involvement in entrepreneur network organizations: The role of commitment and trust. *Journal of Developmental Entrepreneurship*, 10(2), 141-166.
- Major, D. A., Kozlowski, S.W.J., Chao, G. T., & Gardner, P. D. (1995). A longitudinal investigation of newcomer expectations, early socialization outcomes, and the moderating effects of role development factors. *Journal of Applied Psychology*, 80, 418-431.
- Mathieu, J. E., & Zajac, D. M. (1990). A review and meta-analysis of the antecedents, correlates and consequences of organizational commitment. *Psychology Bulletin*, 108(2), 171-194.
- Meyer, J. P., & Allen, N. J. (1997). *Commitment in the workplace*. Thousand Oaks, CA: Sage.
- Meyer, J. P., Stanley, D. J., Herscovitch, L., & Topolnytsky, L. (2002). Affective, continuance, and normative commitment to the organization: A meta-analysis of antecedents, correlates, and consequences. *Journal of Vocational Behavior*, 61, 20-52.
- Miller, N. J., Besser, T., & Malshe, A. (2007). Strategic networking among small businesses in small U.S. communities. *International Small Business Journal*, 25(6), 631-665.
- Mitchell, J. C. (1969). The concept and use of social networks. In Mitchell, J. C. (Ed.), *Social networks in urban situations*, Manchester: Manchester University Press.
- Molm, L. D., Schaefer, D. R., & Collett, J. L. (2007). The value of reciprocity. *Social Psychology Quarterly*, 70(2), 199-217.

- Moreno, J. (1934). *Who shall survive?* New York: Beacon Press.
- Mowday, R. T., Steers, R. M., & Porter, L. W. (1979). The measurement of organizational commitment. *Journal of Vocational Behavior*, 14, 224-247.
- Murphy, S. M., Wayne, S. J., Liden, R. C., & Erdogan, B. (2003). Understanding social loafing: The role of justice perceptions and exchange relationships. *Human Relations*, 45, 61-84.
- Nahapiet, J., & Ghoshal, S. (1998). Social capital, intellectual capital, and the organizational advantage. *Academy of Management Review*, 23, 242-266.
- Neergaard, H. (2005). Networking activities in technology-based entrepreneurial teams. *International Small Business Journal*, 23(3), 257-274.
- O'Donnell, A. (2004). The nature of networking in small firms. *Qualitative Market Research*, 7(3), 206-217.
- Park, S. H., & Luo, Y. (2001). Guanxi and organizational dynamics: Organizational networking in Chinese firms. *Strategic Management Journal*, 22(5), 455-477.
- Parkhe, A., Wasserman, S., & Ralston, D. A. (2006). New frontiers in network theory development. *The Academy of Management Review*, 31, 560.
- Pearce, J. A., & David, F. R. (1983). A social network approach to organization design-performance. *Academy of Management Review*, 8, 436-444.
- Peng, Y. (2004). Kinship networks and entrepreneurs in China's transitional economy. *The American Journal of Sociology*, 109(5), 1045-1074.
- Peugh, J. L., & Enders, C. K. (2005). Using the SPSS MIXED Procedure to fit cross-sectional and longitudinal multilevel models. *Educational and Psychological Measurement*, 65, 717-741.
- Platt, J. R. (1964). Strong inference. *Science*, 146, 347-353.
- Podsakoff, P. S., MacKenzie, S., Lee, J., & Podsakoff, N. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology* 88, 879-903.
- Pollack, J. M., & Rutherford, M. W. (June, 2008). *Social ties and team-member exchange as antecedents to performance of small business owners in networking groups.*

Paper presented at the annual meetings of the Babson Entrepreneurship Research Conference, Chapel Hill, North Carolina.

- Potts, A. J. (1977). *A study of the success and failure rates of small businesses and the use or non-use of accounting information*, Unpublished Doctoral Thesis, The George Washington University.
- Ramachandran, K., & Ramnarayan, S. (1993). Entrepreneurial orientation and networking: Some Indian evidence. *Journal of Business Venturing*, 8(6), 513.
- Ramsden, M., & Bennett, R. J. (2005). The benefits of external support to SME's: "Hard" versus "soft" outcomes and satisfaction levels. *Journal of Small Business and Enterprise Development*. 12(2), 227-241.
- Roberts, K. H., & O'Reilly, C. A. (1979). Some correlates of communication roles in organizations. *Academy of Management Journal*, 22, 42-57.
- Roethlisberger, F. J., & Dickson, W. J. (1939). *Management and the worker*. Cambridge, MA: Harvard University Press.
- Rusbult, C. E., & Farrell, D. (1983). A longitudinal test of the investment model: The impact on job satisfaction, job commitment, and turnover of variations in rewards, costs, alternatives, and investments. *Journal of Applied Psychology*, 68(3), 429.
- Rusbult, C. E., & Van Lange, P. A. M. (2003). Interdependence, interaction and relationships. *Annual Review of Psychology*, 54(1), 351-376.
- Sadler-Smith, E., Hampson, Y., Chaston, I. & Badger, B. (2003). Managerial behaviour, entrepreneurial style and small firm performance. *Journal of Small Business Management*, 41(1), 47-67.
- SAS Institute. (2006). *SAS/STAT* (version 9.1). Cary, NC: SAS Institute.
- Scott, J. (2007). *Social network analysis: A handbook* (2nd Ed.). Los Angeles, CA: Sage Publications.
- Scott, S. G., & Bruce, R. A. (1994). Determinants of innovative behavior: A path model of individual innovation in the workplace. *Academy of Management Journal*, 37, 580-607.
- Seers, A. (1989). Team-member exchange quality: A new construct for role-making research. *Organizational Behavior and Human Decision Processes*, 43, 118-135.

- Seers, A., Ford, L. R., Wilkerson, J. M., & Moormann, T. E. (2001). *The generation of influence: Effects of leader-member exchange and team-member exchange*. Paper presented at the annual meetings of the Southern Management Association.
- Seers, A., Petty, M. M., & Cashman, J. F. (1995). Team-member exchange under team and traditional management: A naturally occurring quasi-experiment. *Group & Organization Studies*, 20(1), 18-38.
- Shaw, E. (1999). Networks and their relevance to the entrepreneurial/marketing interface: A review of the evidence. *Journal of Research in Marketing and Entrepreneurship*, 1(1), 22-38.
- Shipilov, A. V., & Li, S. X. (2008). Can you have your cake and eat it too? Structural holes' influence on status accumulation and market performance in collaborative networks. *Administrative Science Quarterly*, 53, 73-108.
- Short, J., Ketchen, D., Palmer, T., & Hult, T. (2007). Firm, strategic group and industry influences on performance. *Strategic Management Journal*, 28, 147-167.
- Seibert, S. E., Kraimer, M. L., & Liden, R. C. 2001. A social capital theory of career success. *Academy of Management Journal*, 44(2), 219-237.
- Simmel, G. (1908). *Soziologie*. Berlin: Duncker and Humblot, 1968 edn.
- Singer, J. D. (1998). Using SAS PROC MIXED to fit multilevel models, hierarchical models, and individual growth models. *Journal of Educational and Behavioral Statistics*, 24, 323-355.
- Singh, R. P. (2000). *Opportunity recognition through social network characteristics of entrepreneurs*. New York, NY: Routledge Press.
- Smith, K. G., Collins, C. J., & Clark, K. D. (2005). Existing knowledge, knowledge creation capability, and the rate of new product introduction in high-technology firms. *Academy of Management Journal*, 48(2), 346-357.
- Sobel, M. E. (1982). Asymptotic confidence intervals for indirect effects in structural models. In S. Leinhardt (Ed.), *Sociological methodology* (pp. 290-312). San Francisco, CA: Jossey-Bass.
- Soh, P. (2003). The role of networking alliances in information acquisition and its implications for new product performance. *Journal of Business Venturing*, 18(6), 727-744.

- Sparrowe, R. T., Liden, R. C., Wayne, S. J., & Kraimer, M. L. (2001). Social networks and the performance of individuals and groups. *Academy of Management Journal*, 44, 316-325.
- Spence, S.H., Donovan, C., Brechman-Toussaint, M., 1999. Social skills, social outcomes, and cognitive features of childhood social phobias. *J. Abnorm. Psychol.* 108l, 211–221.
- Tett, R. P., & Meyer, J. P. (1993). Job satisfaction, organizational commitment, turnover intention, and turnover: Path analyses based on meta-analytic findings. *Personnel Psychology*, 46(2), 259-293.
- Thibault, J. W., & Kelley, H. H. (1959) *The social psychology of groups*, New York: Wiley.
- Tichy, N. M., Tushman, M. L., & Fombrun, C. J. (1979). Social network analysis for organizations. *Academy of Management Review*, 4, 507-519.
- Timmons, J. A. (1994). *New venture creation*. Boston: Irwin.
- Tse, H. M., & Dasborough, M. T. (2008). A study of emotion and exchange within team member relationships. *Group & Organization Management*, 33, 194-215.
- Tse, H. M., Dasborough, M. T., & Ashkanasy, N. M. (2008). A multi-level analysis of team climate and interpersonal exchange relationships at work. *The Leadership Quarterly*, 19, 195-211.
- Tung, R. L. (2002). Building effective networks. *Journal of Management Inquiry*, 11(2), 94-101.
- Uzzi, B., 1997. Social structure and competition in interfirm networks: the paradox of embeddedness. *Administrative Science Quarterly*, 42(1), 35–67.
- Wasserman, S., & Faust, K. (1994). *Social network analysis*. Cambridge, U.K.: Cambridge University Press.
- Watson, J. (2007). Modeling the relationship between networking and firm performance. *Journal of Business Venturing*, 22, 852-874.
- Watts, J. M. (2003). *Six degrees: the science of a connected age*. New York: Norton.
- West, G. P. (2007). Collective cognition: When entrepreneurial teams, not individuals, make decisions. *Entrepreneurship Theory and Practice*, 77-102.

- White, H. C., Boorman, S. C., & Breiger, R. L. (1976). Social structures from multiple networks, I: Blockmodels of roles and positions. *American Journal of Sociology*, 81, 730-780.
- White, K., & Watkins, S. C. (2000). Accuracy, stability and reciprocity in informal conversational networks in rural Kenya. *Social Networks*, 22, 337-355.
- Williams, L., Ford, L., & Nguyen, N. (2002). Basic and advanced measurement models for confirmatory factor analysis. In Rogelberg, S. (Ed.), *Handbook of Research Methods in Industrial and Organizational Psychology*, 366-389. Blackwell Publishers, Oxford, UK.
- Wieselquist, J., Rusbult, C., Foster, C.A, Agnew, C. R. (1999). Commitment, pro-relationship behavior, and trust in close relationships. *Journal of Personality & Social Psychology*, 77(5), 942-966.
- Witt, L.A., Hochwarter, W. A., Hilton, T. F., & Hillman, C. M. (1999). Team-member exchange and commitment to a matrix team. *Journal of Social Behavior and Personality*, 14(1), 63-74.
- Witt, P. (2004). Entrepreneurs' networks and the success of start-ups. *Entrepreneurship and Regional Development*, 16(5), 391-412.
- Zacharakis, A. I., & Meyer, G.D. (1998). A lack of insight: Do venture capitalists really understand their own decision process? *Journal of Business Venturing*, 13(1), 57-76.
- Zimmer, C., & Aldrich, H. (1987). Resource mobilization through ethnic networks: Kinship and friendship ties of shopkeepers in England. *Sociological Perspectives*, 30(4), 422-455.

TABLE 1- Means, Standard Deviations, Reliabilities and Intercorrelations Reported from Pilot Study

Means, Standard Deviations, Reliabilities and Intercorrelations

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7
1. Sex									
2. Age	41.67	10.18	.06						
3. Tenure in Company	75.47	98.97	.01	-.06					
4. Tenure in Networking Group	31.75	25.34	.08	.27	-.18				
5. Social Network Ties	13.48	9.63	-.07	-.14	-.14	-.08	(.82)		
6. Team-Member Exchange	3.71	0.57	-.01	-.21	-.05	.26	.51*	(.90)	
7. How Many People Passed Business	6.70	6.08	.43	-.34	-.18	-.16	.49*	.42*	
8. How Much Business Was Passed	9,572	9,358	.31	-.18	-.28	-.21	.17	.31	.56**

Note. Cronbach alpha reliabilities are shown in parentheses. Tenure is reported in months. How much business was passed is reported in dollars. * $p < .05$., ** $p < .01$. Sex was coded as dichotomous variable. $N = 23$.

Table 2. Results of Exploratory Factor Analysis for Team-Member Exchange Scale-- Principal Axis Factoring with Varimax Rotation

	Communication	Help	Support
<i>Team-Member Exchange Items</i>			
1. When other members of my team are busy I often volunteer to help them out.		.73	
2. When I am busy, other members of my team often volunteer to help me out.		.82	
3. I frequently take actions that make things easier for other members of my team.		.58	
4. Other members of my team frequently take actions that make things easier for me.		.63	
5. I frequently recognize the efforts of other members of my team.	.72		
6. Other members of my team frequently recognize my efforts.	.71		
7. I communicate openly with other members of my team about what I expect from them.	.68		
8. Other members of my team communicate openly with me about what they expect from me.	.65		
9. I frequently provide support and encouragement to other members of my team.			.67
10. Other members of my team frequently provide support and encouragement to me.			.89
11. I frequently suggest ideas that other members of my team can use.	.41	.36	
12. Other members of my team frequently suggest ideas that I can use.	.44	.43	
Eigenvalue	5.27	1.38	1.22
Percentage of Variance	43.90%	11.48%	10.18%
Cumulative Percentage of Variance	43.90%	53.39%	65.56%

Note: Values less than .35 are not presented.

Table 3- Results of Intraclass Correlation Calculations for Relevant Outcomes

Intraclass Correlations for Relevant Outcomes

Variable	Intraclass Correlation	<i>p</i> -value
1. How Many People Passed You Business	.08	$p < .001$
2. How Much Business Was Passed to You	.00	$p = .61$
3. Team-Member Exchange Receipts	.01	$p = .19$
4. Affective Organizational Communication	.01	$p = .24$
5. Percentage of Annual Revenue from BNI Activity	.00	$p = .64$

TABLE 4- Means, Standard Deviations, Reliabilities and Intercorrelations

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9
1. Sex											
2. Age	43.75	10.59	-0.05								
3. Tenure in Company	5.67	6.60	.30**	.30**							
4. Social Competence (17 items)	3.45	0.50	-0.02	-0.02	0.01	(0.84)					
5. Entrepreneurial Self-Efficacy (15 items)	5.66	0.91	-0.10	-0.10	-0.06	.22**	(0.94)				
6. Tenure in Networking Group	2.30	2.45	.23**	.23**	.31**	0.05	-0.03				
7. Number of Total Group Members	23.55	7.27	0.04	0.03	0.01	-0.05	-0.08	0.08			
8. Percentage of Group Members Responding to Survey	71.81	22.39	-0.06	-0.06	-0.01	0.05	0.10	0.01	-.36*		
9. Quantity of Social Network Ties (4 items)	11.17	4.84	0.02	0.09	0.07	.19**	.20**	.21**	0.11	0.03	(0.80)
10. Diversity of Social Network Ties	3.96	1.68	0.13	0.02	0.07	0.09	.14*	0.09	0.05	0.01	.60**
11. Team-Member Exchange (TMX 12)	3.88	0.48	0.05	0.03	0.09	.31**	.21*	.16**	-0.01	-0.02	.36**
12. TMX Receipts (6 Items)	3.81	0.54	0.06	0.04	.12*	.27**	.13*	.13*	0.01	-0.05	.30**
13. TMX Contributions (6 items)	3.96	0.49	0.03	0.01	0.04	.31**	.27**	.18**	-0.02	0.02	.38**
14. TMX Help (4 items)	3.69	0.62	0.05	0.05	.13*	.27**	.13*	.15**	-0.03	0.02	.33**
15. TMX Support (4 items)	4.18	0.54	0.03	0.02	0.06	.24**	.16**	.15**	-0.01	-0.02	.28**
16. TMX Communication (2 items)	3.78	0.65	0.00	-0.02	-0.04	.19**	.19**	-0.01	0.01	-0.04	.17**
17. Organizational Commitment (22 items)	4.93	0.89	.16**	0.10	.12*	.20**	0.03	.24**	0.04	-0.05	.31**
18. Affective Organizational Commitment (8 items)	5.72	0.96	.14*	.12**	.12*	.19**	0.04	.31**	0.04	-0.02	.29**
19. Normative Organizational Commitment (6 items)	5.29	1.17	0.09	.13*	.12*	.22**	0.05	.18**	-0.01	-0.02	.27**
20. Continuance Organizational Commitment (8 items)	3.87	1.12	.15**	-0.03	0.07	0.11	-0.01	.12*	0.07	-0.08	.23**
21. Turnover Intentions (1 item)	5.83	1.44	0.05	0.09	.15**	.14*	.16*	.18**	.12*	-0.07	.34**
22. Satisfaction with Receipts from Group (1 item)	4.99	1.60	0.01	0.04	0.03	0.05	0.05	0.09	0.05	-0.07	.27**
23. Satisfaction with Contribution to Group (1 item)	5.08	1.51	0.05	-.12*	0.05	.16**	.21*	0.08	0.03	0.04	.31**
24. How Many People Passed You Business (1 item)	5.95	4.55	0.03	.14*	.15**	-0.06	-0.10	.25**	.28**	-0.09	.26**
25. How Much Business Was Passed to You (1 item)	18,521.22	49,411.25	-0.06	-0.01	-0.04	0.01	0.02	0.07	0.12	-0.04	0.06
26. To How Many People Did You Pass Business (1 item)	6.64	4.16	-0.04	0.11	.11*	0.03	0.06	.32**	.24**	-0.09	.29**
27. How Much Business Did You Pass to Others (1 item)	15,783.88	29,323.26	-0.04	0.07	0.04	-.15*	-.13*	.18*	.13*	-0.09	0.11
28. Percentage of Annual Revenue from BNI Activity	18.45	19.95	0.04	-0.02	-0.07	-0.02	-0.01	0.08	0.07	-0.01	.14*

Note: *N* = 336. Sex was coded as a dichotomous variable. Reliabilities are shown in parentheses. Tenure is reported in years. Business passed is reported in dollars. * $p < .05$, ** $p < .01$

TABLE 4- Means, Standard Deviations, Reliabilities and Intercorrelations continued

Variable	11	12	13	14	15	16	17	18	19	20
1. Sex										
2. Age										
3. Tenure in Company										
4. Social Competence (17 items)										
5. Entrepreneurial Self-Efficacy (15 items)										
6. Tenure in Networking Group										
7. Number of Total Group Members										
8. Percentage of Group Members Responding to Survey										
9. Quantity of Social Network Ties (4 items)										
10. Diversity of Social Network Ties										
11. Team-Member Exchange (TMX 12)	(0.88)									
12. TMX Receipts (6 Items)	.94**	(0.81)								
13. TMX Contributions (6 items)	.93**	.74**	(0.82)							
14. TMX Help (4 items)	.83**	.79**	.76**	(0.83)						
15. TMX Support (4 items)	.81**	.76**	.75**	.49**	(0.83)					
16. TMX Communication (2 items)	.63**	.59**	.58**	.36**	.39**	(0.81)				
17. Organizational Commitment (22 items)	.45**	.50**	.38**	.51**	.35**	.21**	(0.90)			
18. Affective Organizational Commitment (8 items)	.45**	.47*	.36**	.43**	.35**	.25**	.81**	(0.83)		
19. Normative Organizational Commitment (6 items)	.40**	.41**	.34*	.43**	.30**	.17**	.86**	.63**	(0.82)	
20. Continuance Organizational Commitment (8 items)	.33**	.37**	.24**	.40**	.23**	.11*	.82**	.41*	.57**	(0.78)
21. Turnover Intentions (1 item)	.45**	.47**	.36**	.40**	.39**	.19**	.66**	.64**	.54**	.46**
22. Satisfaction with Receipts from Group (1 item)	.38**	.43**	.27**	.31**	.35**	.25*	.50**	.51**	.42**	.33**
23. Satisfaction with Contribution to Group (1 item)	.30**	.23**	.34**	.22**	.25**	.25**	.20**	.23**	.16**	.12*
24. How Many People Passed You Business (1 item)	.14*	.15**	0.11	0.11	.20**	0.01	.25**	.26**	.18**	.20**
25. How Much Business Was Passed to You (1 item)	0.06	0.04	0.08	0.05	0.06	0.08	0.10	.14*	0.07	0.03
26. To How Many People Did You Pass Business (1 item)	.17**	.12*	.21**	.14**	.20**	0.01	.13*	.17**	0.07	0.08
27. How Much Business Did You Pass to Others (1 item)	0.06	0.06	0.05	0.00	0.11	-0.02	0.09	0.06	0.04	0.11
28. Percentage of Annual Revenue from BNI Activity	.14*	.12*	.13*	.13*	.15*	0.02	.25**	.19**	.16**	.25**

TABLE 4- Means, Standard Deviations, Reliabilities and Intercorrelations continued

Variable	21	22	23	24	25	26	27
1. Sex							
2. Age							
3. Tenure in Company							
4. Social Competence (17 items)							
5. Entrepreneurial Self-Efficacy (15 items)							
6. Tenure in Networking Group							
7. Number of Total Group Members							
8. Percentage of Group Members Responding to Survey							
9. Quantity of Social Network Ties (4 items)							
10. Diversity of Social Network Ties							
11. Team-Member Exchange (TMX 12)							
12. TMX Receipts (6 Items)							
13. TMX Contributions (6 items)							
14. TMX Help (4 items)							
15. TMX Support (4 items)							
16. TMX Communication (2 items)							
17. Organizational Commitment (22 items)							
18. Affective Organizational Commitment (8 items)							
19. Normative Organizational Commitment (6 items)							
20. Continuance Organizational Commitment (8 items)							
21. Turnover Intentions (1 item)							
22. Satisfaction with Receipts from Group (1 item)	.58**						
23. Satisfaction with Contribution to Group (1 item)	.28**	.37**					
24. How Many People Passed You Business (1 item)	.27**	.32**	0.09				
25. How Much Business Was Passed to You (1 item)	.14*	.15*	0.06	0.04			
26. To How Many People Did You Pass Business (1 item)	.19*	.14*	.20**	.60**	0.06		
27. How Much Business Did You Pass to Others (1 item)	0.03	0.00	0.10	.15*	0.11	.17**	
28. Percentage of Annual Revenue from BNI Activity	.15*	.19**	0.02	0.10	.17**	0.03	0.11

TABLE 5- Group-Adjusted Regression Results for Model with Social Ties and Team-Member Exchange Contributions Predicting Referrals Passed.

	β	se β	R^2 or ΔR^2
Step 1 ($df = 304$)			.046
Social Ties	.23***	.05	
Step 2 ($df = 303$)			.001
Social Ties	.21***	.06	
Team-Member Exchange Contributions	.03	.06	

Note: * ($p < .05$), ** ($p < .01$), *** ($p < .001$). All analyses were conducted using SAS PROC MIXED. SAS PROC MIXED adjusts the coefficients for the independent variables by partialling the variance accounted for by group membership in the regression computations. Data in parentheses reflect degrees of freedom (df).

TABLE 6- Group-Adjusted Regression Results for Model with Social Ties and Team-Member Exchange Contributions Predicting Referrals Passed with Control Variables Included.

	β	se β	R^2 or ΔR^2
Step 1 ($df = 305$)			.14
Number of Group Members	.25***	.06	
Percentage of Group Response Rate	-.01	.06	
Tenure at Own Company	.08	.05	
Tenure in BNI Group	.18**	.05	
Step 2 ($df = 278$)			.00
Number of Group Members	.24***	.06	
Percentage of Group Response Rate	-.01	.06	
Tenure at Own Company	.09	.06	
Tenure in BNI Group	.20***	.06	
Social Competence	-.04	.05	
Entrepreneurial Self-Efficacy	-.06	.06	
Step 3 ($df = 276$)			.05
Number of Group Members	.22***	.06	
Percentage of Group Response Rate	-.02	.06	
Tenure at Own Company	.08	.05	
Tenure in BNI Group	.14*	.06	
Social Competence	-.08	.06	
Entrepreneurial Self-Efficacy	-.11*	.06	
Social Ties	.21***	.06	
Team-Member Exchange Contributions	.06	.06	

Note: * ($p < .05$), ** ($p < .01$), *** ($p < .001$). All analyses were conducted using SAS PROC MIXED. SAS PROC MIXED adjusts the coefficients for the independent variables by partialling the variance accounted for by group membership in the regression computations. Data in parentheses reflect degrees of freedom (df).

TABLE 7- Dominance Analysis for Social Ties and Team-Member Exchange Contributions on the Outcome of Referrals Passed.

	Social Ties	Team-Member Exchange Contributions
General Dominance	0.044	.003
Rescaled Dominance	93.40	6.60

Overall $R^2 = .047$.

TABLE 8- Group-Adjusted Regression Results for Model with Social Ties and Team-Member Exchange Contributions Predicting Team-Member Exchange Receipts.

	β	se β	R^2 or ΔR^2
Step 1 ($df = 308$)			.03
Social Ties	.16***	.03	
Step 2 ($df = 307$)			.53
Social Ties	.01	.04	
Team-Member Exchange Contributions	.73***	.04	

Note: * ($p < .05$), ** ($p < .01$), *** ($p < .001$). All analyses were conducted using SAS PROC MIXED. SAS PROC MIXED adjusts the coefficients for the independent variables by partialling the variance accounted for by group membership in the regression computations. Data in parentheses reflect degrees of freedom (df).

TABLE 9- Group-Adjusted Regression Results for Model with Social Ties and Team-Member Exchange Contributions Predicting Team-Member Exchange Receipts with Control Variables Included.

	β	se β	R^2 or ΔR^2
Step 1 ($df = 310$)			.03
Number of Group Members	-.02	.06	
Percentage of Group Response Rate	-.05	.06	
Tenure at Own Company	.09	.06	
Tenure in BNI Group	.10	.06	
Step 2 ($df = 283$)			.07
Number of Group Members	.00	.06	
Percentage of Group Response Rate	-.04	.06	
Tenure at Own Company	.09	.06	
Tenure in BNI Group	.09	.06	
Social Competence	.24***	.06	
Entrepreneurial Self-Efficacy	.09	.06	
Step 3 ($df = 280$)			.48
Number of Group Members	.03	.04	
Percentage of Group Response Rate	-.02	.05	
Tenure at Own Company	.09*	.04	
Tenure in BNI Group	-.07	.04	
Social Competence	.05	.04	
Entrepreneurial Self-Efficacy	-.08*	.04	
Social Ties	.02	.04	
Team-Member Exchange Contributions	.76***	.04	

Note: * ($p < .05$), ** ($p < .01$), *** ($p < .001$). All analyses were conducted using SAS PROC MIXED. SAS PROC MIXED adjusts the coefficients for the independent variables by partialling the variance accounted for by group membership in the regression computations. Data in parentheses reflect degrees of freedom (df).

TABLE 10- Dominance Analysis for Social Ties and Team-Member Exchange Contributions on the Outcome of Team-Member Exchange Receipts.

	Social Ties	Team-Member Exchange Contributions
General Dominance	0.01	.53
Rescaled Dominance	0.94	99.06

Overall $R^2 = .53$.

TABLE 11- Group-Adjusted Regression Results for Model with the Interaction of Social Ties and Team-Member Exchange Contributions Predicting Referrals Passed.

	β	se β	R^2 or ΔR^2
Step 1 ($df = 304$)			.07
Social Ties	.23***	.05	
Step 2 ($df = 303$)			.01
Social Ties	.21***	.06	
Team-Member Exchange Contributions	.03	.06	
Step 3 ($df = 302$)			.00
Social Ties	.21***	.06	
Team-Member Exchange Contributions	.04	.06	
Interaction-- Ties X TMX Contributions	.02	.06	

Note: * ($p < .05$), ** ($p < .01$), *** ($p < .001$). All analyses were conducted using SAS PROC MIXED. SAS PROC MIXED adjusts the coefficients for the independent variables by partialling the variance accounted for by group membership in the regression computations. Data in parentheses reflect degrees of freedom (df).

TABLE 12- Group-Adjusted Regression Results for Model with the Interaction of Social Ties and Team-Member Exchange Contributions Predicting Team-Member Exchange Receipts.

	β	se β	R^2 or ΔR^2
Step 1 ($df = 308$)			.09
Social Ties	.29***	.05	
Step 2 ($df = 307$)			.05
Social Ties	.02	.04	
Team-Member Exchange Contributions	.73***	.04	
Step 3 ($df = 306$)			.00
Social Ties	.02	.04	
Team-Member Exchange Contributions	.73***	.04	
Interaction-- Ties X TMX Contributions	-.02	.04	

Note: * ($p < .05$), ** ($p < .01$), *** ($p < .001$). All analyses were conducted using SAS PROC MIXED. SAS PROC MIXED adjusts the coefficients for the independent variables by partialling the variance accounted for by group membership in the regression computations. Data in parentheses reflect degrees of freedom (df).

TABLE 13- Group-Adjusted Regression Results for Model with Social Ties and Team-Member Exchange Contributions Predicting Percentage of Annual revenue Generated from Networking Activity.

	β	se β	R^2 or ΔR^2
Step 1 ($df = 232$)			.02
Social Ties	.14*	.06	
Step 2 ($df = 231$)			.02
Social Ties	.11	.06	
Team-Member Exchange Contributions	.10	.07	

Note: * ($p < .05$), ** ($p < .01$), *** ($p < .001$). All analyses were conducted using SAS PROC MIXED. SAS PROC MIXED adjusts the coefficients for the independent variables by partialling the variance accounted for by group membership in the regression computations. Data in parentheses reflect degrees of freedom (df).

Table 14- Group-Adjusted Regression Results for Model with Social Ties and Team-Member Exchange Contributions Predicting Percentage of Annual revenue Generated from Networking Activity with Control Variables Included

	β	se β	R^2 or ΔR^2
Step 1 ($df = 232$)			.02
Number of Group Members	.07	.07	
Percentage of Group Response Rate	.01	.07	
Tenure at Own Company	-.09	.06	
Tenure in BNI Group	.10	.06	
Step 2 ($df = 225$)			.00
Number of Group Members	.07	.07	
Percentage of Group Response Rate	.00	.07	
Tenure at Own Company	-.09	.06	
Tenure in BNI Group	.11	.07	
Social Competence	-.01	.07	
Entrepreneurial Self-Efficacy	-.02	.07	
Step 3 ($df = 222$)			.03
Number of Group Members	.07	.07	
Percentage of Group Response Rate	-.00	.07	
Tenure at Own Company	-.10	.07	
Tenure in BNI Group	.08	.07	
Social Competence	-.06	.07	
Entrepreneurial Self-Efficacy	-.07	.07	
Social Ties	.12	.07	
Team-Member Exchange Contributions	.12	.07	

Note: * ($p < .05$), ** ($p < .01$), *** ($p < .001$). All analyses were conducted using SAS PROC MIXED. SAS PROC MIXED adjusts the coefficients for the independent variables by partialling the variance accounted for by group membership in the regression computations. Data in parentheses reflect degrees of freedom (df).

TABLE 15- Dominance Analysis for Social Ties and Team-Member Exchange Contributions on the Outcome of Percentage of Annual revenue Generated from Networking Activity.

	Social Ties	Team-Member Exchange Contributions
General Dominance	0.015	.012
Rescaled Dominance	55.20	44.80

Overall $R^2 = .027$.

Figure 1. Ego Network Displaying Relationships Maintained on Weekly and Daily Basis.

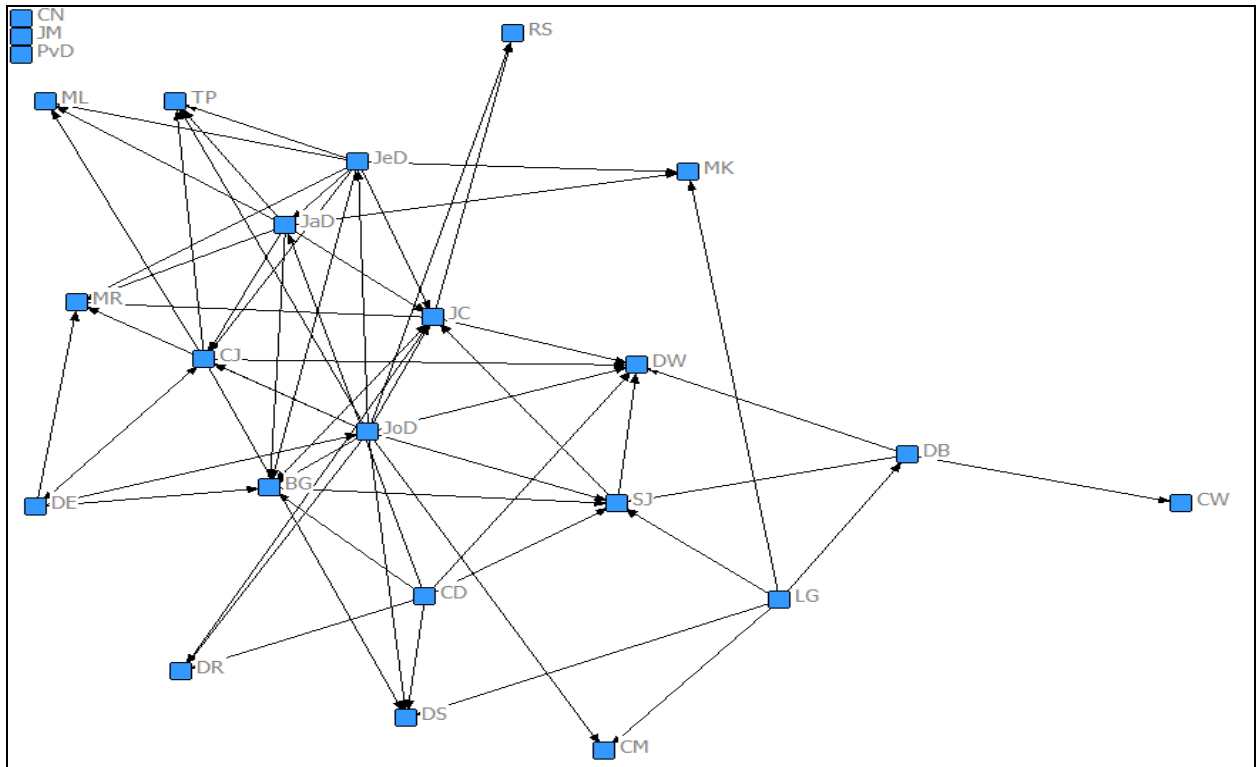


Figure 2. Graph Illustrating Referrals Passed Between Members in a Networking Group

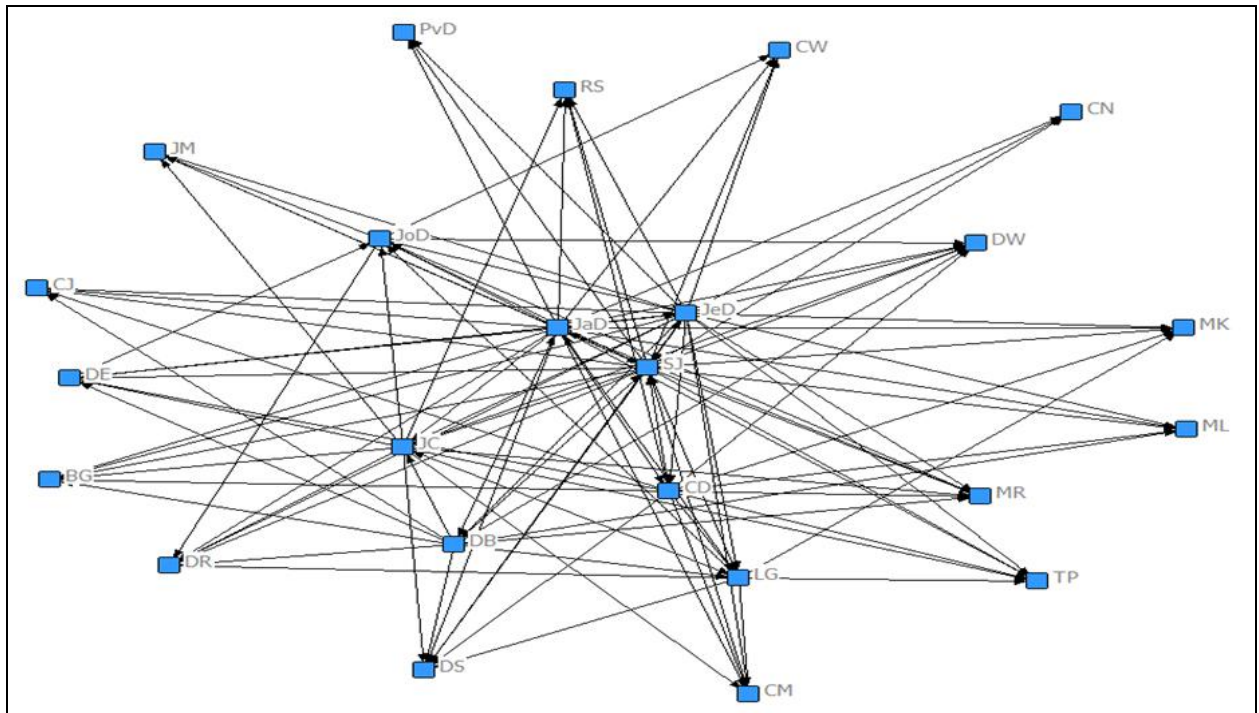
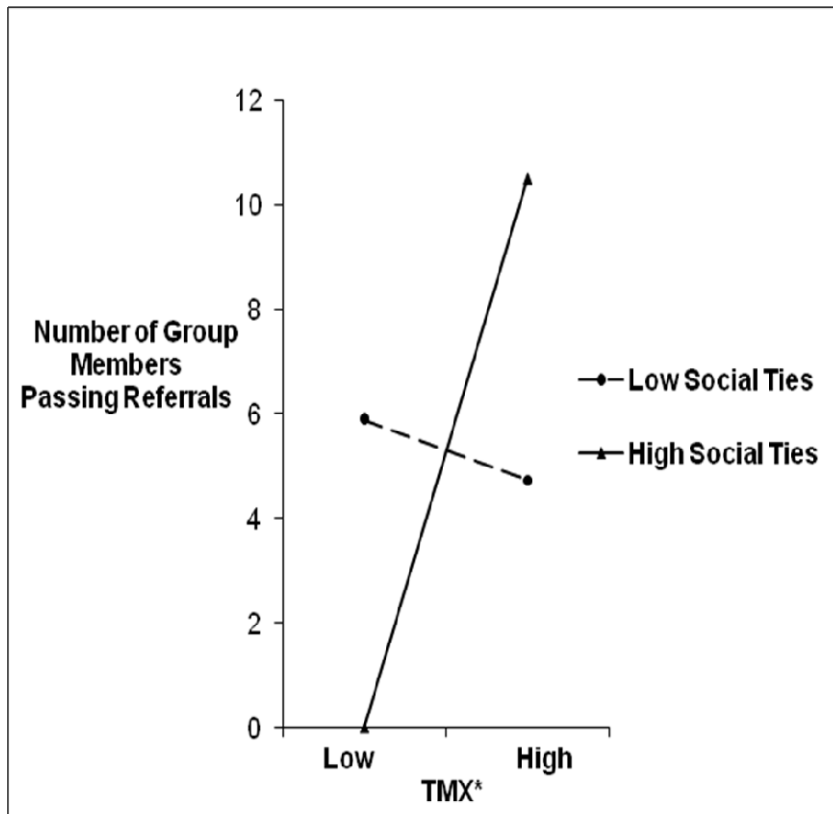


Figure 3. Interaction of Social Ties and TMX on Number of People Passing Referrals from Pilot Study



*In the follow-up study, TMX will be represented as TMX Contributions.

Figure 4. Proposed Research Model With Outcome of Number of Group Members

Passing Referrals.

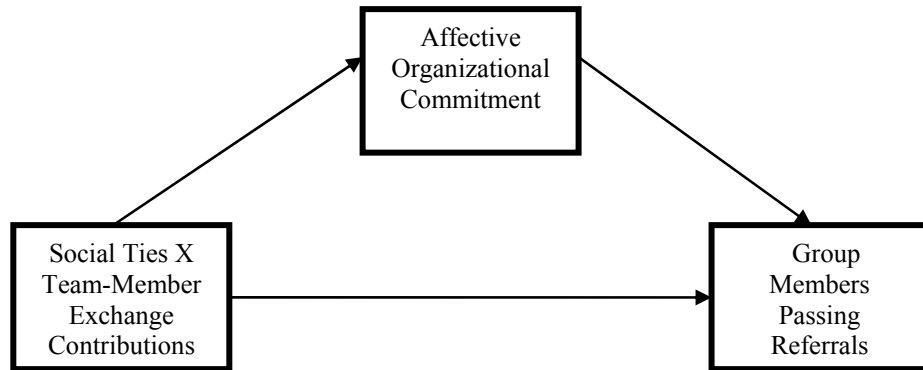


Figure 5. Proposed Research Model With Outcome of TMX Receipts.

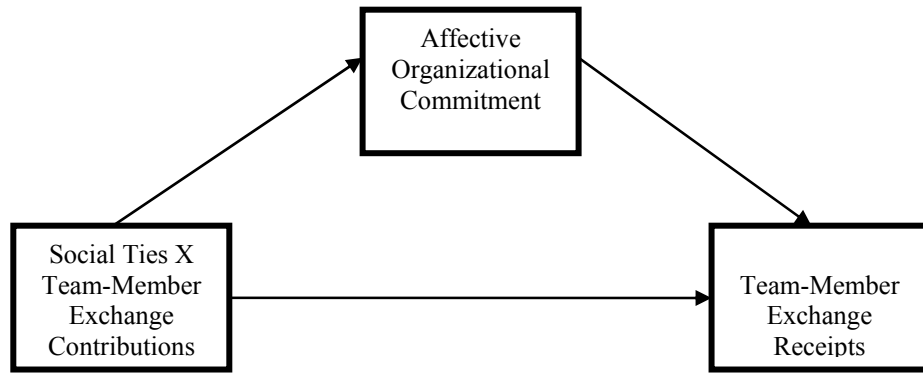


Figure 6. Interaction of Social Ties and TMX Contributions on Affective Organizational Commitment

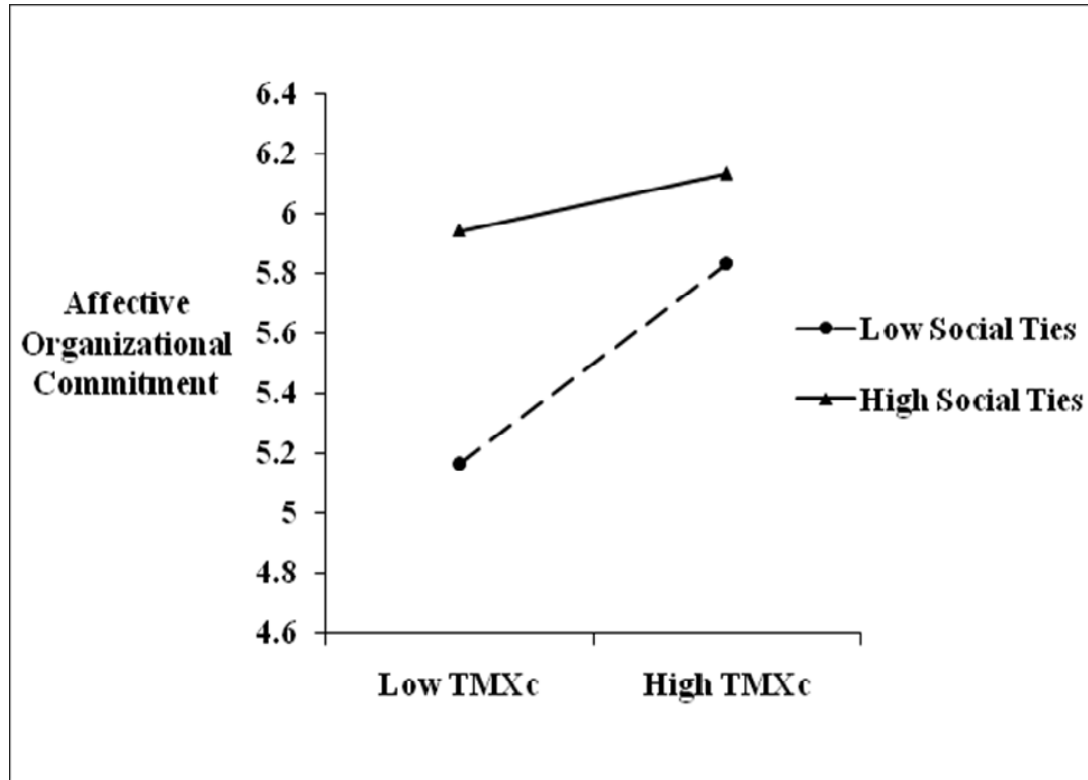
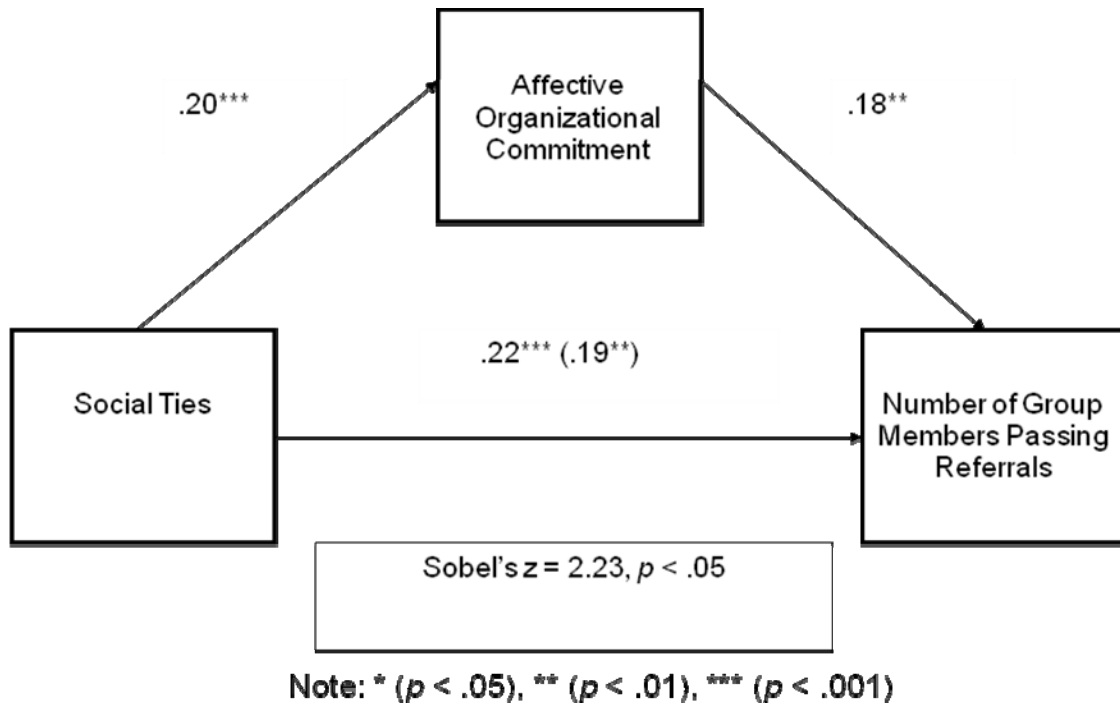
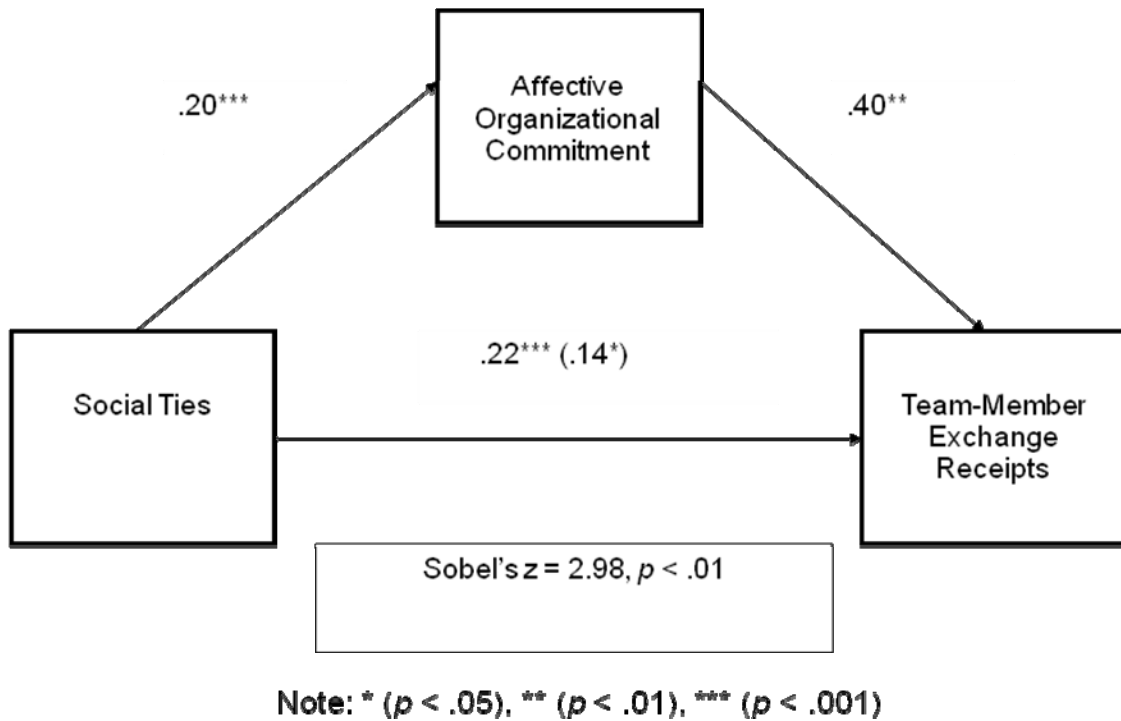


Figure 7. Affective Organizational Commitment Partially Mediates the Relation Between Social Ties and How Many Group Members Passed Referrals with Control Variables Included



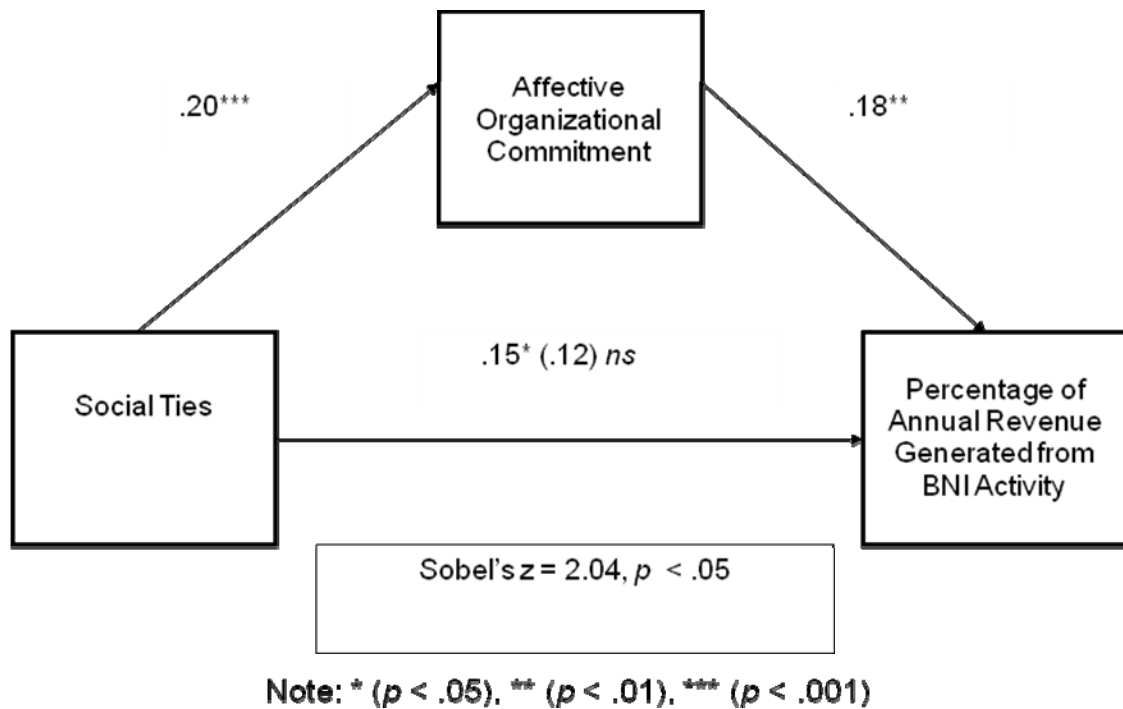
Note: The values in the figure represent standardized regression coefficients. The coefficient in parentheses represents the association social ties and referrals passed when affective organizational commitment is included in the model.

Figure 8. Affective Organizational Commitment Partially Mediates the Relation Between Social Ties and Team-Member Exchange Receipts with Control Variables Included



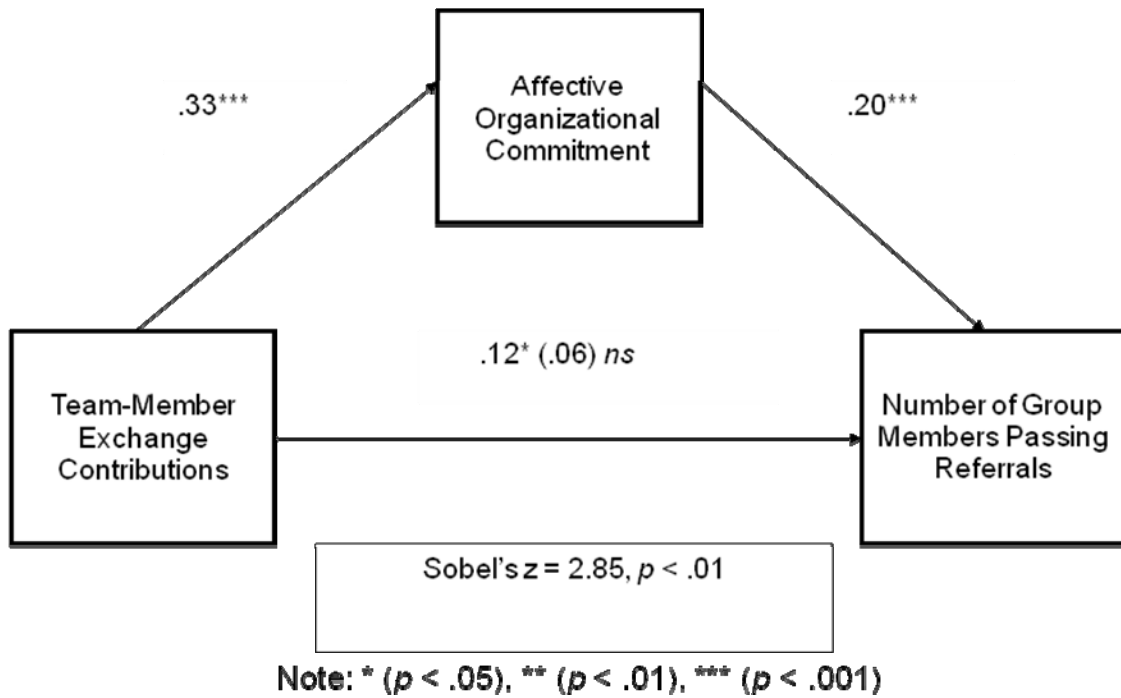
Note: The values in the figure represent standardized regression coefficients. The coefficient in parentheses represents the association social ties and TMX receipts when affective organizational commitment is included in the model.

Figure 9. Affective Organizational Commitment Fully Mediates the Relation Between Social Ties and Percentage of Annual Revenue Generated from BNI Activity with Control Variables Included



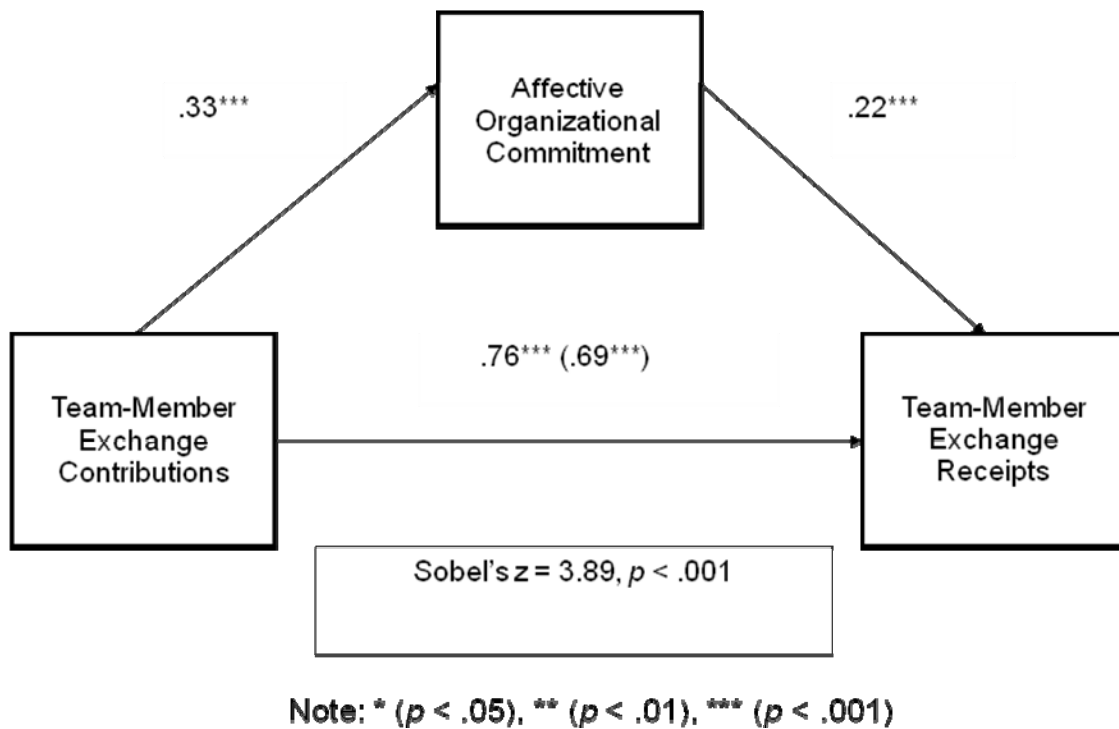
Note: The values in the figure represent standardized regression coefficients. The coefficient in parentheses represents the association social ties and percentage of annual revenue generated from BNI activity when affective organizational commitment is included in the model.

Figure 10. Affective Organizational Commitment Fully Mediates the Relation Between Team-Member Exchange Contributions and Number of Group Members Passing Referrals with Control Variables Included



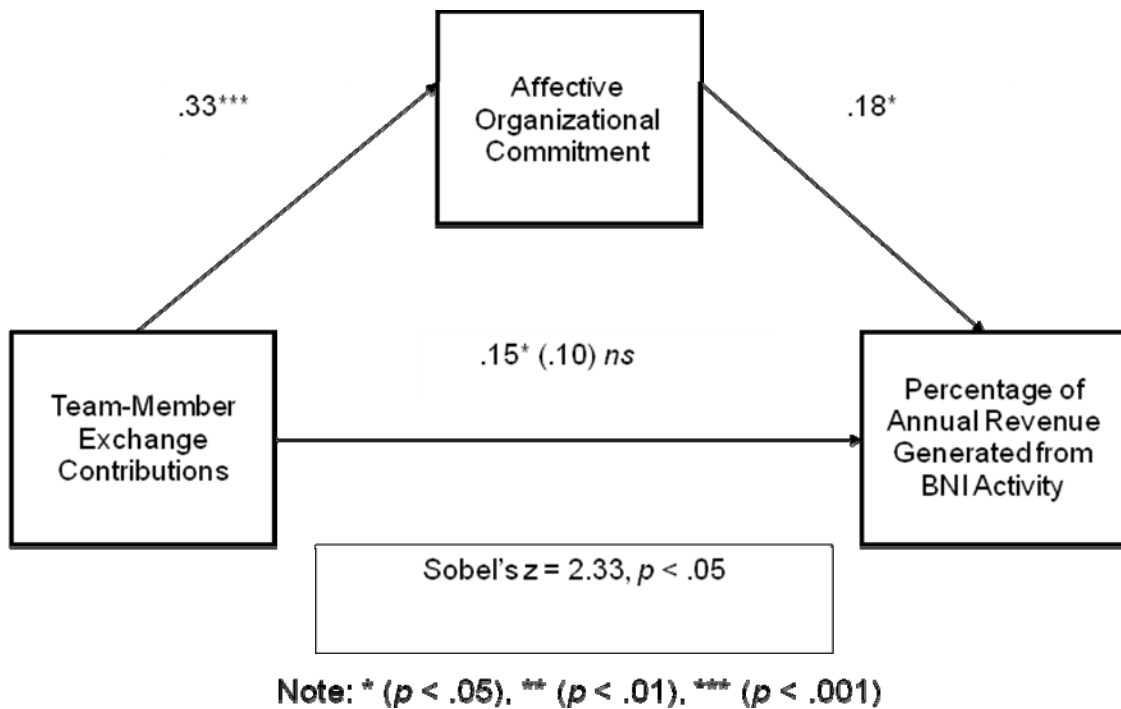
Note: The values in the figure represent standardized regression coefficients. The coefficient in parentheses represents the association TMX contributions and referrals passed when affective organizational commitment is included in the model.

Figure 11. Affective Organizational Commitment Partially Mediates the Relation Between Team-Member Exchange Contributions and Team-Member Exchange Receipts with Control Variables Included



Note: The values in the figure represent standardized regression coefficients. The coefficient in parentheses represents the association TMX contributions and TMX receipts when affective organizational commitment is included in the model.

Figure 12. Affective Organizational Commitment Fully Mediates the Relation Between Team-Member Exchange Contributions and Percentage of Annual Revenue Generated from BNI Activity with Control Variables Included



Note: The values in the figure represent standardized regression coefficients. The coefficient in parentheses represents the association TMX contributions and percentage of annual revenue generated from BNI activity when affective organizational commitment is included in the model.

Appendix A (IRB Consent Form)

Introduction and Consent

The purpose of this study is to learn about networking.

In this study you will be asked to fill out a survey. The survey you will complete at this time may take 10 minutes to complete. In this study you will be asked to complete a number of opinion surveys that deal with a variety of topics, including self-evaluation. You do not have to answer any questions you do not wish to answer and you may withdraw at any time without penalty. Roughly 150 people will participate in the study.

There are no costs for participating in this study other than the time you will spend filling out questionnaires. Your alternative is not to participate in this study. You are free to cease participation at any time.

Data is being collected only for research purposes. The information you offer will be kept strictly confidential. Access to all data will be limited to study personnel.

In the future, you may have questions about your participation in this study. If you have any questions, complaints, or concerns about the research, contact: Jeffrey M. Pollack, Department of Management, Virginia Commonwealth University P. O. Box 844000, pollackjm@vcu.edu or Dr. Anson Seers at aseers@vcu.edu.

If you have any questions about your rights as a participant in this study, you may contact:

Office for Research
Virginia Commonwealth University
800 East Leigh Street, Suite 113
P.O. Box 980568
Richmond, VA 23298
Telephone: 804-827-2157

You may also contact this number for general questions, concerns or complaints about the research. Please call this number if you cannot reach the research team or wish to talk to someone else. Additional information about participation in research studies can be found at <http://www.research.vcu.edu/irb/volunteers.htm>.

Please continue with the survey if you choose to do so.

Please click next to continue and indicate your agreement to participate.

Appendix B (Team-Member Exchange Quality)

Thoughts About Your BNI Group

Please place the number to the left of each item which most closely corresponds to how you currently feel.

1	2	3	4	5	6	7
<i>Strongly Disagree</i>	<i>Moderately Disagree</i>	<i>Slightly Disagree</i>	<i>Neither Disagree nor Agree</i>	<i>Slightly Agree</i>	<i>Moderately Agree</i>	<i>Strongly Agree</i>

- _____ 1. When other members of my team are busy I often volunteer to help them out.
- _____ 2. When I am busy, other members of my team often volunteer to help me out.
- _____ 3. I frequently take actions that make things easier for other members of my team.
- _____ 4. Other members of my team frequently take actions that make things easier for me.
- _____ 5. I frequently recognize the efforts of other members of my team.
- _____ 6. Other members of my team frequently recognize my efforts.
- _____ 7. I communicate openly with other members of my team about what I expect from them.
- _____ 8. Other members of my team communicate openly with me about what they expect from me.
- _____ 9. I frequently provide support and encouragement to other members of my team.
- _____ 10. Other members of my team frequently provide support and encouragement to me.
- _____ 11. I frequently suggest ideas that other members of my team can use.
- _____ 12. Other members of my team frequently suggest ideas that I can use.

Appendix C (Organizational Commitment)

With respect to your own feelings about your BNI Group, please write the number to the left of each item that most accurately corresponds to how you currently feel.

1	2	3	4	5	6	7
<i>Strongly Disagree</i>	<i>Moderately Disagree</i>	<i>Slightly Disagree</i>	<i>Neither Disagree nor Agree</i>	<i>Slightly Agree</i>	<i>Moderately Agree</i>	<i>Strongly Agree</i>

_____ 1. I would be very happy to spend the rest of my time as a BNI member in this group.

_____ 2. I enjoy discussing my BNI Group with people outside of it.

_____ 3. I really feel as if this BNI Group's problems are my own.

_____ 4. I think I could easily become as attached to another BNI Group as I am to this one.

_____ 5. I do not feel like "part of the family" at my BNI Group.

_____ 6. I do not feel "emotionally attached" to this BNI Group.

_____ 7. This BNI Group has a great deal of meaning for me.

_____ 8. I do not feel a strong sense of belonging to my BNI Group.

_____ 9. I do not feel any obligation to remain in my current BNI Group.

_____ 10. Even if it were to my advantage, I do not feel it would be right to leave my current BNI Group now.

_____ 11. I would feel guilty if I left my BNI Group now.

_____ 12. This BNI Group deserves my loyalty.

_____ 13. I would not leave my BNI Group now because I have a sense of obligation to the people in it.

_____ 14. I owe a great deal to my current BNI Group.

_____ 15. I am not afraid of what might happen if I quit this BNI Group without having another one lined up.

_____ 16. It would be very hard for me to leave this BNI Group right now, even if I wanted to.

_____ 17. Too much in my life would be disrupted if I decided I wanted to leave my BNI Group today.

_____ 18. It wouldn't be too costly for me to leave my current BNI Group right now.

_____ 19. Right now, staying with my BNI Group is a matter of necessity as much as desire.

_____ 20. I feel that I have too few options to consider leaving my current BNI Group

_____ 21. One of the few serious consequences of leaving my current BNI Group would be the scarcity of available alternatives.

_____ 22. One of the major reasons I continue to work with this BNI Group is that leaving would require considerable personal sacrifice—another BNI Group may not match the overall benefits that I get here.

Appendix D (Egocentric Weekly Interaction Measure)

Numerical Response

1. With how many members of this group do you meet in person weekly about business-related matters? _____
2. With how many members of this group do you talk on the phone weekly about business-related matters? _____
3. How many members of this group do you e-mail weekly about business-related matters? _____
4. To how many members of this group do you go to weekly for advice about business-related matters? _____
5. How many members of this group come to you weekly for advice about business-related matters? _____

List

5. Please list the members of this group with whom you meet in person weekly about business-related matters. _____
6. Please list the members of this group with whom you talk on the phone weekly about business-related matters. _____
7. Please list the members of this group to whom you go weekly for advice about business-related matters. _____
8. Please list the members of this group who come to you weekly for advice about business-related matters. _____

Appendix E (Networking Performance, Satisfaction, Turnover Intentions)

1. Please list the members of this group who passed you referrals which resulted in transacted business in the last twelve months.

2. How much business, in revenue, was generated by these referrals to you?

3. How many members from this group did you pass closed business in the last 12 months?

4. How much business, in revenue, was generated by these referrals to other people?

With respect to your own feelings about your BNI Group, please write the number to the left of each item that most accurately corresponds to how you currently feel.

1	2	3	4	5	6	7
<i>Very Unsatisfied</i>	<i>Moderately Unsatisfied</i>	<i>Somewhat Unsatisfied</i>	<i>Neither</i>	<i>Somewhat Satisfied</i>	<i>Moderately Satisfied</i>	<i>Very Satisfied</i>

_____ 5. Overall, how satisfied are you with the contribution you make to your BNI group?

_____ 6. Overall, how satisfied are you with value you receive from your BNI group?

1	2	3	4	5	6	7
<i>Strongly Disagree</i>	<i>Moderately Disagree</i>	<i>Slightly Disagree</i>	<i>Neither</i>	<i>Slightly Agree</i>	<i>Moderately Agree</i>	<i>Strongly Agree</i>

_____ 7. In 1 year I will still be a member of this BNI Group.

Appendix F (Entrepreneurial Self-Efficacy)

For each of the following items, indicate the number which corresponds to your degree of certainty of your ability to perform the task described in the role of an entrepreneur.

Please write the number corresponding to your answer on the line next to each item using the following scale:

1	2	3	4	5	6	7
<i>Completely Unsure</i>	<i>Somewhat Unsure</i>	<i>Slightly Unsure</i>	<i>Neither</i>	<i>Slightly Sure</i>	<i>Somewhat Sure</i>	<i>Completely Sure</i>

- _____ 1. Develop new ideas.
- _____ 2. Perform financial analysis.
- _____ 3. Set and meet sales goals.
- _____ 4. Conduct market analysis.
- _____ 5. Develop new markets.
- _____ 6. Develop new products and services.
- _____ 7. Reduce risk and uncertainty.
- _____ 8. Conduct strategic planning.
- _____ 9. Establish a position in product markets.
- _____ 10. Establish and achieve goals and objectives.
- _____ 11. Define organizational roles, responsibilities and policies.
- _____ 12. Take calculated risks.
- _____ 13. Develop new methods of production, marketing, and management.
- _____ 14. Make decisions under risk and uncertainty.
- _____ 15. Develop a financial system and internal controls.

Appendix G (Social Competence)

Please indicate the number which corresponds to your perception of yourself. Write the number corresponding to your answer on the line next to each item.

1	2	3	4	5
Definitely not true	A little true	Somewhat true	Mostly true	Definitely true

- _____ 1. I'm a good judge of other people.
- _____ 2. I can usually recognize others' traits accurately by observing their behavior.
- _____ 3. I can usually read others well — tell how they are feeling in a given situation.
- _____ 4. I can tell why people have acted the way they have in most situations.
- _____ 5. I generally know when it is the right time to ask someone for a favor.
- _____ 6. I can easily adjust to being in just about any social situation.
- _____ 7. I can be comfortable with all types of people — young or old, people from the same or different backgrounds as myself.
- _____ 8. I can talk to anybody about almost anything.
- _____ 9. People tell me that I'm sensitive and understanding.
- _____ 10. I have no problems introducing myself to strangers.
- _____ 11. People can always read my emotions even if I try to cover them up.
- _____ 12. Whatever emotion I feel on the inside tends to show on the outside.
- _____ 13. Other people can usually tell pretty much how I feel at a given time.
- _____ 14. I am very sensitive to criticism from others.
- _____ 15. I am often concerned about what others think of me.
- _____ 16. I'm good at flattery and can use it to my own advantage when I wish.
- _____ 17. I can really seem to like another person even if this is not so.

Appendix H (Demographics)

General Information About Myself

1. What is your sex? _____ Male _____ Female
2. What is your age? _____ Years Old
3. What is your race?
 _____ African American _____ Asian American _____ Caucasian
 _____ Hispanic _____ Native American
 _____ Other (_____)
4. Please mark the highest level of education you have achieved.
 _____ High School Diploma
 _____ Associate Degree
 _____ Undergraduate Degree Completed
 _____ Master's Degree
 _____ Ph.D.
 _____ Other (_____)
5. With what religion do you most closely identify?
 _____ Christianity _____ Buddhist _____ Chinese Traditional
 _____ Judaism _____ Hindu _____ Other (_____)
 _____ Islam _____ Non-religious

Appendix I (Work History)

General Information About My Work Life

6. How many hours per week do you usually work in your current job? _____
7. Which description most closely identifies your job title?
- | | | |
|------------------|--------------------|------------------------|
| _____ Assistant | _____ Sales person | _____ Teacher/Coach |
| _____ Supervisor | _____ Executive | _____ Service Employee |
| _____ Manager | _____ Owner | _____ Other |
8. For how long have you been with this company? _____ Years and _____ Months
9. The company for which I work has between _____ 1-25 employees
_____ 26-100 employees
_____ 100-500 employees
_____ 500-5000 employees
_____ more than 5000 employees
10. How long have you been a member in this BNI Group? _____ Years and _____ Months
11. What is the amount of money your BNI group has passed year-to-date (S.M.T.M.)? _____
12. What is your group goal for total business passed next year (S.M.T.M.)? _____
13. How experienced are you, personally, as an entrepreneur?
- | |
|------------------------------|
| _____ Not experienced |
| _____ Somewhat experienced |
| _____ Moderately experienced |
| _____ Very experienced |
| _____ Extremely experienced |

Appendix J (IRB Debrief Form)

Dear BNI Group Member,

The study that you just completed looked at how networking relationships function in your group.

We are investigating how these relationships impact the amount of business you receive in referrals. We hope that our research will add to our knowledge about how to enable BNI groups, and members, to be as effective as possible.

If you have any questions or concerns, please feel free to contact Jeff Pollack at pollackjm@vcu.edu or Dr. Anson Seers at aseers@vcu.edu.

Thank you for your cooperation and participation.

Vita

Jeffrey M. Pollack was born on January 3, 1975, in Evergreen, Colorado and he is an American citizen. He graduated from Borah High School, Boise, Idaho in 1993. He received his Bachelor of Science in Communication from Northwestern University in 1997. He received his Masters of Science in Organizational Communication from North Carolina State University in 2003. He has taught numerous courses at North Carolina State University, Virginia Commonwealth University and at the University of Richmond including Organizational Design, Entrepreneurship, Organizational Behavior, Industrial and Organizational Psychology and Public Speaking.